OHIO
AGRICULTURAL
STATISTICS
SERVICE

Room 608 Federal Bldg.
200 North High St.
Columbus, Ohio 43215-2498

1990

Ohio Agricultural Statistics and
Ohio Department of Agriculture

Annual Report

GEORGE V. VOINOVICH
GOVERNOR

STATE OF OHIO
OFFICE OF THE GOVERNOR
COLUMBUS 43266-0601

As Governor, I am pleased with the opportunity to work toward strengthening Ohio's number one industry -- agriculture.

Ohio's 84,000 farms produced more than $4.7 billion in agricultural products last year. Those farmers and thousands of other people employed in agriculture-related industries are a vital force, both in our state's economy and in putting food on the tables of our fellow Ohioans.

With the 21st century swiftly approaching, Ohio's agriculture industry faces new challenges. While we strive to increase production and yields, we must also rededicate ourselves to protecting and preserving our environment. I know that Ohio's agriculture industry stands ready to make Ohio a leader in meeting these challenges in the years to come. Additionally, we must ensure that Ohio's farmers have fair access to international markets and that we aggressively pursue export opportunities for our farm products.

We are committed to working harder and smarter, and doing more with less in state government. As you review this report, you will see that Ohio farmers have been doing just that for years. Ohio's agricultural community continues to represent an indomitable work ethic of which we can all be proud. Over the years, Ohio's farmers have faced many difficult challenges, but have persevered to produce many bountiful harvests.

Thank you, Ohio farmers, for providing your fellow-Ohioans a better quality of life.

Sincerely,

George V. Voinovich
Governor

Ohio Department of Agriculture

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George V. Voinovich, Governor
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As Director of Agriculture, it is my privilege to present to you the 1990 Annual Report of the Ohio Department of Agriculture (ODA) and annual data from the Ohio Agricultural Statistics Service. This comprehensive report provides an overview of the divisions of ODA along with their responsibilities and activities. The statistical portion of the report provides up-to-date agricultural data and also gives a historical perspective.

The past several years have been filled with uncertainty for Ohio agriculture. Drought and excessive moisture, as well as fluctuations in both domestic and international markets, continue to challenge Ohio's number one industry. The story behind the facts and statistics in this report is one of unequaled innovation and perseverance on the part of Ohio's farmers and agri-businesses.

Ohio's agricultural industry continues to adapt and adjust during good times and in difficult times. It is my hope that the Ohio Department of Agriculture, through its people and its services, can help make Ohio's multi-billion dollar agricultural industry even stronger and more competitive in the years to come.

This Annual Report was prepared in accordance with Section 149.01 of the Ohio Revised Code and is the result of the combined efforts and good work of ODA's staff, the Agricultural Statistics Service and the Ohio Cooperative Extension Service.

Sincerely,

OHIO DEPARTMENT OF AGRICULTURE

Fred L Dailey

Fred L. Dailey
Director

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Agriculture is Ohio's and the Nation's leading industry. Many foreign customers rely on Ohio-grown products to provide food and fiber to fulfill their needs. We are proud to be a part of the agri-business community that serves this major industry. The *1990 Ohio Agricultural Statistics and Ohio Department of Agriculture Annual Report* provides the latest statistical information to aid in decision-making to effectively market Ohio's commodities. Preliminary county and state estimates of crops produced in 1990 are an intricate feature of this year's publication. Inventory numbers of livestock in Ohio as of January 1, 1991 and production estimates for livestock products are presented. Final county estimates for 1989 are also included in this publication.

The preparation of a complex publication like this one requires the input of many people. The most important ones are the farmers and agricultural product handlers who supply the basic information on a voluntary basis. A very special thanks goes to the telephone and field enumerators who collect the data. Sincere appreciation also goes to the technical and support staff of the Ohio Agricultural Statistics Service for their devoted service.

Once again, the reader may note some changes in the format of this publication. District estimates for major crops have been returned to the county estimates tables. This change is in response to requests by several long-term subscribers. Maps have been added at the bottom of these tables to help the reader visualize the major production areas of the state. We have removed the precipitation maps from the crop summary narrative on pages 10 - 11 to allow more room for the text. Finally, installation of new computer equipment during the past year has allowed more consistent preparation of all pages of the publication. Please let me know what you think of the changes.

Agricultural information for Ohio is available dating back to 1960 in issues of *Ohio Agricultural Statistics* and other publications. County data for all states are available on computer tape from the Agricultural Statistics Board and in publication form the Agricultural Statistics offices in the various states.

James E. Ramey

JAMES E. RAMEY
State Statistician

1990
OHIO AGRICULTURAL STATISTICS
and
Ohio Department of Agriculture
Annual Report

Compiled by
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ACKNOWLEDGEMENTS

Estimates made by the Ohio Agricultural Statistics Service are based on information supplied by farmers and agri-businesses. These estimates are the result of the data collected on probability designed surveys. Considerable information is collected from farmers randomly selected for telephone or personal interviews. Data for county estimates are collected from a large mail survey and, where available, check data are used to the extent possible.

Our sincere thanks are also extended to the office staff, field and telephone interviewers of the Ohio Agricultural Statistics Service. The cover design was provided by the Ohio Cattlemen's Association. Layout and technical assistance were provided by Karen Wargo.

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OHIO HISTORICAL AGRICULTURAL STATISTICS

Year	Number of Farms	Corn Acres Harvested	Corn Grain Yield	Soybeans Acres Harvested	Soybean Yield	Winter Wheat Acres Harvested	Winter Wheat Yield
		(000)	Bu./Ac.	(000)	Bu./Ac.	(000)	Bu./Ac.
1991							
1990	84,000	3,630	121.0	3,480	39.0	1,350	59.0
1989	86,000	3,140	118.0	3,980	31.5	1,230	51.0
1988	85,000	3,250	85.0	3,700	27.0	920	50.0
1987	84,000	3,260	120.0	3,900	37.0	850	58.0
1986	88,000	3,880	128.0	3,620	40.0	1,050	46.0
1985	89,000	4,240	127.0	3,870	41.5	950	62.0
1984	90,000	4,130	118.0	3,770	36.5	1,100	44.0
1983	92,000	3,060	80.0	3,280	32.0	1,200	49.0
1982	93,000	4,255	114.0	3,700	36.0	1,200	43.0
1981	94,000	4,040	96.0	3,450	28.5	1,600	44.0
1980	95,000	4,120	113.0	3,760	36.0	1,370	49.0
1979	96,000	3,830	115.0	4,080	35.5	1,320	48.0
1978	96,000	3,850	105.0	3,870	33.0	1,080	39.0
1977	97,000	3,870	105.0	3,480	35.0	1,540	47.0
1976	99,000	4,080	103.0	2,880	33.0	1,600	40.0
1975	101,000	3,575	93.0	3,100	33.0	1,680	42.0
1974	112,000	3,820	75.0	3,140	26.0	1,450	41.0
1973	113,000	3,270	80.0	3,590	25.5	800	32.0
1972	114,000	3,286	92.0	3,010	26.5	1,029	45.0
1971	116,000	3,776	91.0	2,634	30.5	944	44.0
1970	118,000	3,249	79.0	2,550	28.5	925	38.0
1969	120,000	3,013	87.0	2,475	29.5	1,017	38.0
1968	122,000	3,096	86.0	2,325	30.5	1,196	37.5
1967	124,000	3,516	79.0	2,231	22.5	1,514	34.0
1966	126,000	3,328	84.0	2,105	28.5	1,183	39.0
1965	129,000	3,295	74.0	2,044	24.5	1,258	32.0
1964	131,000	3,328	65.0	1,825	22.5	1,446	32.0
1963	135,000	3,200	78.0	1,738	23.5	1,461	38.0
1962	139,000	2,960	76.0	1,756	25.0	1,238	32.0
1961	144,000	2,718	74.0	1,722	28.0	1,457	21.0
1960	149,000	3,576	68.0	1,499	24.5	1,428	35.0
1959	154,000	3,687	62.5	1,455	25.0	1,264	24.5
1958	158,000	3,206	60.0	1,429	26.0	1,436	31.0
1957	162,000	3,206	54.0	1,404	23.0	1,436	22.0
1956	168,000	3,523	60.0	1,301	24.0	1,496	26.0
1955	174,000	3,708	59.0	1,193	24.5	1,496	29.0
1954	180,000	3,708	61.0	1,122	25.0	1,740	27.0
1953	186,000	3,531	55.0	1,007	20.5	2,384	28.5
1952	192,000	3,567	53.0	940	22.0	2,249	24.5
1951	200,000	3,532	48.0	1,124	19.0	1,906	18.0
1950	208,000	3,364	52.0	1,090	22.5	2,118	22.0
1949	211,000	3,617	54.0	875	24.0	2,353	25.0
1948	214,000	3,691	58.5	908	20.5	2,353	24.5
1947	216,000	3,386	41.0	950	18.5	2,179	22.5
1946	219,000	3,641	49.0	903	18.0	1,831	26.5
1945	223,000	3,468	50.5	1,077	18.0	2,129	27.0
1944	225,000	3,651	40.4	1,243	17.6	1,918	22.7
1943	230,000	3,444	51.0	1,213	21.0	1,523	16.5
1942	236,000	3,249	56.0	1,051	22.5	1,655	21.0
1941	241,000	3,217	49.5	656	20.0	1,902	25.0
1940	244,000	3,185	38.0	561	16.0	1,921	22.0

OHIO HISTORICAL AGRICULTURAL STATISTICS

Year	Hay Acres Harvested	Hay Yield	Oats Acres Harvested	Cattle Inventory	Milk Cow Inventory	Hog Inventory	Stock Sheep Inventory
	(000)	Tons/Ac.	(000)	(000)	(000)	(000)	(000)
1991				1,580	340		230
1990	1,400	3.30	230	1,650	354	2,000	205
1989	1,625	2.80	250	1,760	353	2,080	200
1988	1,625	2.18	200	1,820	350	2,210	210
1987	1,400	3.06	250	1,800	350	2,100	245
1986	1,460	2.95	160	1,840	370	2,000	225
1985	1,450	3.17	310	1,835	365	1,980	220
1984	1,350	2.81	220	1,880	383	1,970	225
1983	1,260	2.57	240	1,850	393	2,200	250
1982	1,340	2.64	340	1,850	382	1,920	260
1981	1,420	2.53	270	1,815	375	2,050	260
1980	1,430	2.51	290	1,825	375	2,150	265
1979	1,440	2.51	290	1,750	375	2,120	290
1978	1,550	2.50	340	2,025	398	2,160	310
1977	1,550	2.30	370	2,250	398	1,750	380
1976	1,540	2.31	440	2,305	390	1,900	382
1975	1,510	2.36	465	2,350	405	1,675	404
1974	1,380	2.19	475	2,150	412	1,950	441
1973	1,500	2.20	540	2,134	434	2,274	481
1972	1,476	2.12	367	2,113	439	2,320	538
1971	1,550	2.07	539	2,072	444	2,611	575
1970	1,440	2.09	528	2,031	448	2,838	605
1969	1,415	2.05	585	2,011	499	2,557	617
1968	1,600	2.14	692	2,011	529	2,583	636
1967	1,654	1.82	494	2,052	557	2,557	642
1966	1,786	2.04	642	2,094	586	2,388	649
1965	1,853	1.86	606	2,204	630	2,191	662
1964	1,907	1.88	652	2,272	670	2,331	669
1963	1,906	1.78	767	2,295	705	2,619	727
1962	1,894	1.68	825	2,272	742	2,757	790
1961	2,005	1.96	737	2,272	757	2,651	832
1960	1,937	1.84	1,023	2,250	765	2,599	924
1959	1,977	1.73	1,100	2,228	773	2,707	973
1958	2,118	1.76	1,068	2,251	822	2,603	1,046
1957	2,154	1.67	1,101	2,345	874	2,479	1,036
1956	2,244	1.72	1,101	2,393	892	2,666	1,036
1955	2,395	1.71	1,251	2,369	939	2,836	1,046
1954	2,525	1.61	1,117	2,417	978	2,578	1,036
1953	2,606	1.57	1,044	2,347	988	2,302	1,036
1952	2,516	1.48	1,186	2,235	988	2,502	987
1951	2,590	1.52	1,140	2,170	1,008	3,014	940
1950	2,563	1.45	1,075	2,107	1,029	3,173	940
1949	2,255	1.43	1,265	2,107	1,039	3,051	979
1948	2,384	1.43	1,171	2,128	1,060	2,962	1,053
1947	2,497	1.40	714	2,150	1,082	2,962	1,132
1946	2,536	1.52	1,348	2,172	1,104	3,118	1,258
1945	2,560	1.48	1,162	2,239	1,138	3,182	1,430
1944	2,605	1.39	1,047	2,262	1,118	3,182	1,625
1943	2,662	1.44	1,126	2,196	1,085	4,133	1,958
1942	2,501	1.56	1,185	2,132	1,053	3,563	1,939
1941	2,563	1.36	1,150	2,070	1,032	3,181	1,901
1940	2,670	1.48	1,009	2,029	1,022	3,181	1,920

PROFILE OF OHIO AGRICULTURE 1990 1/ 6/

Commodity	Unit	Ohio		State ranked first	
		Rank 2/	Prod. or 3/ inventory	State 2/	Prod. or inventory
			Thousand		Thousand
Field Crops					
Corn for grain	Bu.	6	417,450	Iowa	1,562,400
Corn for silage	Ton	9	2,880	Wisconsin	9,380
Oats	Bu.	6	16,100	S. Dakota	53,200
Winter wheat	Bu.	9	79,650	Kansas	472,000
Rye	Bu.	15	175	S. Dakota	1,870
Soybeans	Bu.	5	135,720	Illinios	354,900
All hay (baled)	Ton	13	4,620	Wisconsin	9,120
Sugarbeets	Ton	12	355	Minnesota	5,387
All potatoes	Cwt.	24	1,911	Idaho	112,340
Tobacco	Lb.	9	18,915	N. Carolina	639,639
Fresh vegetables					
Sweet corn	Cwt.	4	942	Florida	5,797
Tomatoes	Cwt.	10	392	Florida	15,407
Celery	Cwt.	6	107	California	15,505
Storage onions	Cwt.	10	198	Oregon	6,865
Total fresh vegetables 4/	Cwt.	13	2,039	California	133,614
Processing vegetables					
Tomatoes	Ton	2	434.51	California	9,306.20
Cucumbers	Ton	7	47.52	Michigan	141.60
Total processing vegetables	Ton	6	487.07	California	9,403.87
Fruit					
Apples	Lb.	11	120,000	Washington	4,700,000
All grapes	Ton	7	7.7	California	5,085.0
Processed grapes	Ton	6	7.5	California	4,346.0
Peaches	Lb.	15	5,500	California	1,584,000
Strawberries	Cwt.	8	72	California	9,900
Poultry and poultry products					
Chicken inventory 12/1/90	Head	6	21,020	California	34,500
Chicken sold	Lb.	9	37,080	N. Carolina	87,600
Broiler production	Lb.	21	96,350	Arkansas	3,995,040
Turkey production	Lb.	11	134,900	N. Carolina	1,160,000
Egg production 12/89-11/90 (million)	No.	4	4,667	California	7,472
Livestock and livestock products					
Hog and pig inventory 12/1/90	Head	6	2,000	Iowa	14,000
Hog and pig production	Lb.	8	837,348	Iowa	5,394,390
Cattle and calf inventory 1/1/91	Head	20	1,580	Texas	13,400
Cattle and calf production	Lb.	15	749,930	Texas	5,926,300
Beef cow inventory 1/1/91	Head	28	370	Texas	5,360
Milk cow inventory 1/1/91	Head	8	340	Wisconsin	1,765
Sheep and lamb inventory 1/1/91	Head	11	305	Texas	2,000
Sheep and lamb production	Lb.	13	17,380	Texas	115,291
Wool	Lb.	12	1816	Texas	17,400
Cattle slaughtered	Head	17	233.2	Kansas	6,258.5
Hogs slaughtered	Head	11	2,575.4	Iowa	25,785.0
Calves slaughtered	Head	8	88.0	New York	279.6
Sheep and lambs slaughtered	Head	16	30.2	Colorado	1,558.2
Red meat production	Lb.	16	624,149	Iowa	6,151,006
Livestock slaughter plants 1/1/91	No.	5	211	Iowa	258

Not in thousands

PROFILE OF OHIO AGRICULTURE 1990 1/ 6/

Commodity	Unit	Ohio		State ranked first	
		Rank 2/	Prod. or 3/ inventory	State 2/	Prod. or inventory
			Thousand		Thousand
Milk and milk products					
Milk production (million)	Lb.	8	4,495	Wisconsin	24,400
Milk equivalent used for manufactured dairy production (million)	Lb.	8	2,520	Wisconsin	21,354
All cheese excluding cottage cheese	Lb.	14	98,600	Wisconsin	1,910,230
Swiss cheese	Lb.	2	60,144	Illinois	73,759
Lowfat cottage cheese	Lb.	4	17,313	New York	69,456
Creamed cottage cheese	Lb.	4	39,366	New York	66,401
Cottage cheese curd	Lb.	4	23,296	New York	86,522
Ice cream	Gal.	5	40,735	California	102,718
Ice milk	Gal.	5	15,810	California	43,996
Milk sherbet	Gal.	3	3,518	California	5,446
Water ices	Gal.	2	5,890	Missouri	6,492
Manufactured dairy plants Not in thousands	No.	6	80	Wisconsin	286
Miscellaneous					
Cash receipts 1989 (million)	Dol.	16	3,812	California	17,515
Number of farms 1990	No.	7	84.0	Texas	186.0
Operations with cattle	No.	8	43.0	Texas	136.0
Operations with hogs	No.	6	13.6	Iowa	35.0
Operations with sheep	No.	3	7.4	Iowa	10.0
Operations with milk cows	No.	5	9.0	Wisconsin	33.0
Honey production	Lb.	24	2,040	Florida	20,900
Fertilizer consumption (7/89-6/90) 5/	Ton	9	1,856.8	California	3,823.3

1/ Data reported for 1990 unless noted otherwise in stub. 2/ Rank among the States based on production or inventory. 3/ Thousand unless noted otherwise in stub. 4/ Includes small quantities of processing vegetables. 5/ Preliminary. 6/ Ohio also produces barley, milo, canola, dry beans, buckwheat, speltz, clover seed, timothy seed, goals, rabbits, ducks, and maple syrup.

INDEX NUMBERS OF CROP AND LIVESTOCK PRODUCTION IN OHIO 1983-1990 1/

	1983	1984	1985	1986	1987	1988	1989	1990
Crops								
Feed grains	59	119	134	123	97	66	89	108
Food grains	81	67	81	67	68	64	87	110
Soybeans	86	113	132	120	118	82	103	111
Other field crops	73	101	79	72	64	64	64	83
Seed crops and hay	91	107	129	121	120	100	128	130
All vegetables	86	102	122	124	107	83	101	108
Fruit	151	171	179	120	196	136	162	158
Total crops	76	111	127	116	105	76	98	112
Livestock and livestock products								
Meat animals	111	108	108	108	110	117	112	127
Poultry and poultry products	134	153	158	170	194	200	204	227
Milk	107	104	109	111	109	107	102	101
Wool	59	57	59	60	60	57	56	56
Total livestock and products	112	112	114	116	119	123	118	127
Total all commodities	88	111	123	116	110	92	105	117

1/ Base year 1977=100

OHIO 1990 CROP SUMMARY

Ohio farmers can always count on a change in the weather and the 1990 crop season was no exception. The planting season started with good, clear, but cold weather. This did not deter farmers from planting corn as quickly as soils were suitable to work even though temperatures were cold for germination. April rainfall measured 3.13 inches statewide; 11 percent below normal. May weather turned soggy with 7.06 inches of rain falling during the month. This was 88 percent above normal. The rain slowed planting during the month so that corn planting which was ahead of the usual pace at the beginning of the month fell behind the average pace as May progressed. Soybean planting began slowly because of cold soils and fell further behind schedule as rains washed out farmer's plans. Hay cutting and curing also took a back seat to May rains. Hay harvest ran late at first because cool weather delayed growth and development and later, rains prevented timely harvest. Some first cuttings were diverted to haylage rather than baled. June weather was more pleasant. Rainfall was normal at 3.89 inches. Temperatures were subnormal the first half of the month and above normal the second half. Overall, once the row crops were planted, a good growing season seemed to be developing. Winter wheat harvest became a struggle against more rain. July precipitation totaled 6.34 inches; 62 percent above normal. Hay curing also continued to be a problem. The summer rains produced lush growth especially in pastures, grasses and legumes. Summer temperatures generally ran subnormal and rarely soared into the 90s. Consequently crops endured very little stress from high temperatures and certainly not from low soil moisture. August rain measured a modest 4.00 inches; 14 percent above normal.

As the harvest season approached farmers were concerned that the late-planted crops would not have enough time to mature if an early frost visited Ohio. Fortunately hindsight showed the fears to be unfounded but harvest activities proved to be difficult. Above normal rains in September and October kept combines moving at a rather slow but steady pace. September rains measured 4.29 inches; 43 percent above normal. October rain amounted to 4.55 inches; 94 percent above normal. November rainfall, at 2.10 inches finally reached 21 percent below normal.

Corn for grain production amounted to 417,450,000 bushels, 22 percent above the 1989 output and well below the record high 1985 production of 511,810,000 bushels by 18 percent. The 1990 corn yield of 121 bushels per acre was up 3 bushels from the previous year yield and 7 bushels less than the record high set in 1986.

Soybean production totaled 135,720,000 bushels, an increase of almost 10,000,000 bushels from the previous year's output and 25,000,000 bushels below the record high output of 1985. Ohio soybean yield reached 39 bushels per acre, 7.5 bushels higher than the 1989 yield and 2.5 bushels less than the 1985 record high. Winter wheat production attained a record high 79,650,000 bushels in 1990 eclipsing the previous record set in 1977 by over 7,000,000 bushels. The Ohio wheat yield measured 59 bushels per acre; 8 bushels more than the 1989 yield and 3 bushels below the record high set in 1985. Ohio hay output was estimated at 4,620,000 tons for 1990, only 67,000 tons more than a year earlier. The weather was very good for growing hay but not as good for curing it. Nevertheless most farmers got some good quality hay harvested during the 1990 season. The average yield for all hay reached a record high 3.30 tons per acre.

Ohio farmers planted 1,150,000 acres of winter wheat for all purposes including grain harvest in 1991. This estimate was based on a survey conducted after December 1, 1990 when all the winter wheat should have been planted. The planted acreage was lower than a year earlier when farmers planted 1,400,000 acres. Weather conditions during the early part of the planting season were rainy and kept soils very moist. Row crops were also harvested later than usual. Both these factors delayed seeding activities and held progress to a fairly slow pace. Wheat prices were low at planting time and government programs also discouraged increased plantings.

Germination and emergence conditions were good for winter wheat during the fall of 1990. Soil moisture was ample and temperatures were reasonably mild until mid-January. Fortunately snow protected the wheat when very cold, windy conditions blasted through the Buckeye State around the middle of January.

OHIO CROP VALUES

The total value of production of all principal crops estimated in Ohio including field crops, fruits and vegetables totaled $2,627,428,000 in 1990. This was a 3 percent increase from the 1989 value of $2,540,488,000 and a 21 percent increase from the 1988 value of $2,165,227,000. The 1988 value was low because of the drought which reduced production and prices did not rise as much as production dropped. Production of each major field crop in Ohio during 1990 exceeded the 1989 output but the price per unit declined for each one except soybeans. Corn production during the 1990 season was 417,450,000 bushels; an increase of 22 percent from 1989. Corn prices dropped from 1989 to 1990 by 10 percent ($2.49 vs. $2.25) giving a value for the 1990 production of $939,263,000; 10 percent more than the 1989 value. Soybean production of 135,720,000 bushels in 1990 increased 8 percent from a year earlier and price was up 2 percent at $5.85 compared with $5.73. Soybean value of production advanced almost 11 percent from 1989 to 1990. Winter wheat production in 1990 at 79,650,000 bushels was priced at $2.70 per bushel. The value of production of the 1990 Ohio wheat was $215,055,000; a decline of 8 percent from a year earlier. Oat production in 1990 increased 2 percent to 16,100,000 bushels and the 1990 price plunged 18 percent to $1.20 per bushel. The net effect was a 16 percent decline in the value of production to $19,320,000. Hay production of 4,620,000 tons increased 1 percent from a year earlier and the price per ton at $104.00 per ton declined 13 percent from 1989. Hay value of production was off 12 percent at $480,480,000.

OHIO VEGETABLE PRODUCTION

Production of fresh market and processing vegetables, including strawberries, totaled 11,852,400 cwt. in 1990 compared with 11,007,400 in 1989. Higher total production for all crops was primarily due to an increase in processing cucumbers, tomatoes and snap beans. Processing vegetable acreage drifted upward from 21,400 acres in 1989 to 23,140 acres in 1990, an 8 percent increase. Fresh market vegetable acreage dropped from 16,890 acres in 1989 to 15,200 acres in 1990, a 9 percent decline.

Harvested sweet corn acreage remained unchanged from last year; yield and price per unit increased slightly. Sweet corn plantings were delayed by wet weather. More sweet corn was planted in 1990 than in 1989, but the acreage loss was more in 1990 due to the weather. Onion production edged up slightly from 191,000 cwt. in 1989 to 198,000 cwt. in 1990. Onion acreage, yield and total value increased even though price per cwt. dropped from $11.20 in 1989 to $9.86 in 1990. Acreage increased but yield declined for fresh market tomatoes which, oddly enough, had no effect on the level of production. Conversely, processing tomatoes decreased in acreage, but increased in yield, price per ton and total value. Processing tomato harvested acreage declined from 17,500 acres in 1989 to 17,100 acres in 1990; this was a 2 percent drop from a year earlier. Tomato acreage in some areas were planted over as many as 3 times due to wet, cooler-than-average weather. Total production rose 11 percent to 434,510 tons; price per ton dropped 1 percent from $77.20 in 1989 to $76.60 in 1990. Total value of processing tomatoes rose 10 percent to approximately $33.3 million. Yield moved up 14 percent from 22.36 tons per acre in 1989 to 25.41 tons per acre in 1990. Cucumbers for pickles were upbeat all season long. Cucumbers showed a 19 percent increase in harvested acreage, a 2 percent increase in yield, a 21 percent increase in production, a 12 percent increase in price and a 36 percent increase in total farm value. Total processing crops advanced 8 percent in harvested acreage, 13 percent in yield and 18 percent in total value.

OHIO FRUIT PRODUCTION

Ohio's 1990 apple production totaled 120 million pounds, a 4 percent decrease from 1989. Some early season frost damage did occur, but reports were few and scattered throughout the state. Growing conditions appeared ideal for fruit set, however fruit size was smaller this year than in past years. Ohio apple producers saw a very slight increase in yield per acre during 1990. Yields edged up from 12,500 pounds per acre in 1989 to 12,600 pounds per acre in 1990. The 1990 season average price for both fresh and processing apples in Ohio was 17.8 cents per pound. Ohio producers averaged 4.2 cents per pound over the national average which is 13.6 cents per pound. Harvested acreage drifted from 10,000 acres in 1989 to 9,500 in 1990.

Peach production in 1990 totaled 5.5 million pounds; a 31 percent decline from 1989 and an 8 percent decline from 1988. Ohio's peach crop did suffer losses from winter freeze in some areas of the state. Late frosts drastically reduced production potential. Several sources indicated fruit bud damage and kill after watching temperatures rise near 80 degrees in March followed by near freezing temperatures in late May. It has been suggested that the 1988 drought is having a latent effect on peach trees here in Ohio. The 1990 fruit set was poor primarily due to late spring frosts, however, all of the factors mentioned above have played a role in lowering production. Bearing acres, yield and production were all lower this year, but producers did receive a 12 percent increase in price. Ohio's season average price for peaches was 38 cents per pound in 1990 vs 34 cents a pound in 1989.

Grape production totaled 7,700 tons; down 4 percent from 8,000 tons harvested in 1989 and down 13 percent from 1988. Three percent are used for fresh market sales, while 97 percent are processed into wine, juice, cider and concentrate. Lower yields per acre and lower production translated to higher prices. In 1989, grape producers received $266.00 per ton vs $304.00 per ton in 1990, a 14 percent increase. May had 7.06 inches of rain, 88 percent of normal, which adversely affected some grape vineyards. Ohio's crop continues mainly as a concord cultivar.

Ohio 1990 strawberry production totaled 72,000 cwt.; up 31 percent from the 1989 level. Too much moisture in late spring lowered quality somewhat, but strawberry producers averaged 65 cwt. per acre around the state. In 1988-1989, average yields were 46 cwt. per acre and 56 cwt. per acre, respectively. Prices per cwt. dropped from $80 per cwt. in 1989 to $71 per cwt. in 1990. Total receipts for strawberries, however, advanced 16 percent for Ohio producers totaling $5,112,000 for 1990. Harvested acreage dropped 9 percent, leveling off at 1,100 acres.

CROP PRODUCTION AND VALUE OHIO 1989-1990, UNITED STATES 1990 1/

Crop	Ohio			U.S.	Ohio		U.S.	Unit 3/
	Acres Planted 1990	Acres harvested			Yield per acre			
		1989	1990	1990	1989	1990	1990	
	Thousand							
Corn for Grain 4/	3,700	2,900	3,450	66,952	118.0	121.0	118.5	Bu.
Corn for Silage		240	180	6,124	14.0	16.0	14.2	Ton
Winter Wheat	1,400	1,230	1,350	49,976	51.0	59.0	40.7	Bu.
All Wheat	1,400	1,230	1,350	69,353	51.0	59.0	39.5	Bu.
Soybeans	3,500	3,980	3,480	56,502	31.5	39.0	34.0	Bu.
Oats	270	250	230	5,940	63.0	70.0	60.1	Bu.
Rye	40	5	5	373	31.0	35.0	27.1	Bu.
Potatoes	8.0	7.9	7.8	1,359.1	185	245	290	Cwt.
Sugar Beets	20.0	11.9	19.2	1,377.5	16.7	18.5	20.0	Ton
Tobacco-Burley (31) 6/		9.1	9.7	732,710.0	1,750	1,950	2,218	Lb.
All Hay		1,625	1,400	61,558	2.80	3.30	2.39	Ton
Alfalfa Hay		725	700	25,401	3.30	4.00	3.29	Ton
All Other Hay		900	700	36,156	2.40	2.60	1.75	Ton
Strawberries		1.2	1.1	45.2	46	65	278	Cwt.
Apples, comm'l 7/		10.0	9.5	484.0	12,500	12,600	19,700	Lb.
Peaches 7/		1.0	1.0	184.2	8,000	5,610	12,000	Lb.
Grapes 7/		2.0	2.0	741.3	4.00	3.85	7.50	Ton
Fresh Market								
Sweet Corn	12.3	10.7	10.7	181.2	85	88	89	Cwt.
Celery	0.35	0.4	0.3	35.9	465	355	567	Cwt.
Lettuce 11/	-	1.4	-	228.2	120	-	302	Cwt.
Onions 8/	0.5	0.49	0.5	140.6	390	395	380	Cwt.
Tomatoes	3.2	2.7	2.9	130.4	145	135	257	Cwt.
Fresh Market Total 9/	17.2	16.9	15.2	1,122.2				Cwt.
Processing								
Tomatoes	17.5	17.5	17.1	354.5	22.36	25.41	29.19	Ton
Cucumbers	4.6	3.7	4.4	116.0	10.62	10.80	5.66	Ton
Processing Total 10/	23.8	21.4	23.1	1,544.6				Ton

1/ Data for the United States, where applicable, include all seasonal groups and are rounded to conserve space. 2/ Price per unit for Ohio and U.S. grain and hay crops were obtained from Crops Values, January 1991. Revisions will be published January 1992. 3/ For yield and production. 4/ Corn planted for all purposes. 5/ Not available at time of publication.

CROP PRODUCTION AND VALUE OHIO 1989-1990, UNITED STATES 1990 1/

Ohio		U.S.	Ohio		U.S.	Ohio		U.S.
Production			Price per unit 2/			Value of production		
1989	1990	1990	1989	1990	1990	1989	1990	1990
Thousand			Dollars			Thousand dollars		
342,200	417,450	7,933,068	2.49	2.25	2.30	852,078	939,263	18,008,938
3,360	2,880	86,844						
62,730	79,650	2,033,299	3.74	2.70	2.64	234,610	215,055	5,498,563
62,730	79,650	2,738,594	3.74	2.70	2.61	234,610	215,055	7,298,833
125,370	135,720	1,921,787	5.73	5.85	5.85	718,370	793,962	11,214,561
15,750	16,100	357,149	1.46	1.20	1.12	22,995	19,320	408,192
155	175	10,098	3.50	3.50	2.10	543	613	21,158
1,462	1,911	393,867	7.30	6.40	6.15	10,673	12,230	2,409,052
199	355	27,593	40.80	5/	5/	8,119	5/	5/
15,925	18,915	1,624,934	1.673	1.755	1.742	26,643	33,196	2,829,901
4,553	4,620	146,985	120.00	104.00	84.80	546,360	480,480	11,138,492
2,393	2,800	83,555						
2,160	1,820	63,430						
55	72	12,573	80.00	71.00	47.20	4,400	5,112	593,739
125,000	120,000	9,524,900	0.179	0.178	0.136	22,385	21,360	1,292,107
8,000	5,500	2,205,200	0.340	0.380	0.173	2,720	2,090	365,443
8.0	7.7	5,560.2	266.00	304.00	287.00	2,129	2,343	1,595,248
910	942	16,063	14.10	14.30	15.10	12,831	13,471	242,454
186	107	20,324	11.20	9.86	11.30	2,083	1,055	229,020
168	-	68,833	28.20	11/	11.80	4,738	11/	813,966
191	198	53,508	14.40	11.20	10.30	2,419	2,016	495,347
392	392	33,468	36.90	22.50	26.40	14,465	8,820	883,986
2,333	2,039	248,267				37,854	26,562	3,624,265
391.3	434.5	10,347.7	77.20	76.60	67.80	30,208	33,283	701,923
39.3	47.5	656.5	196.00	220.00	210.00	7,701	10,454	137,797
431.1	487.1	15,441.0				37,973	44,629	1,332,182

6/ U.S. data includes all types of tobacco. 7/ Utilized production. 8/ When computing crop values, Ohio onion shrinkage for 1989 and 1990 amounted to 23,000 and 18,000 cwt. respectively; U.S. shrinkage for 1990 was 5,366,000 cwt. Value of crop based on sales to Decmeber 1, 1990. 9/Inlcudes processing totals of dual usage crops and crops not published seperately. 10/Processing crops price per unit includes all payments to the growers, including the cost of materials and includes estimates of minor crops not published seperately. 11/Estimates discontinued.

OHIO CROP RECORDS:
ACREAGE, YIELD AND PRODUCTION

Crop	Date series began	Record 1/	Harv. Acres	Year	Yield	Year	Total Production	Year	Unit
			Thou.				Thou.		
Corn for grain	1919	High	4,030	1985	128.0	1986	511,810	1985	Bu.
		Low	2,537	1961	27.5	1930	75,598	1924	Bu.
Corn for silage	1919	High	285	1981	17.0	1987	4,000	1982	Ton
		Low	106	1935	5.4	1930	823	1933	Ton
Soybeans for beans	1924	High	4,080	1979	41.5	1985	160,605	1985	Bu.
		Low	17	1925	11.5	1926	207	1926	Bu.
Wheat	1866	High	3,209	1899	62.0	1985	79,650	1990	Bu.
		Low	800	1987	6.0	1900	9,000	1866	Bu.
Oats	1866	High	2,374	1928	85.0	1985	92,400	1912	Bu.
		Low	160	1986	20.0	1890	9,000	1988	Bu.
Rye	1866	High	200	1913	43.0	1985	2,700	1913	Bu.
		Low	4	1985	10.0	1896	150	1981	Bu.
Alfalfa hay	1919	High	1,052	1955	4.00	1990	2,800	1990	Ton
		Low	93	1920	1.30	1930	188	1919	Ton
Other hay	1964	High	1,080	1968	2.60	1990	2,160	1989	Ton
		Low	700	1990	1.49	1965	1,328	1965	Ton
All hay	1866	High	3,553	1908	3.30	1990	4,898	1916	Ton
		Low	1,260	1983	0.60	1895	1,755	1895	Ton
Apples	1934	High					7,886	1937	Bu.
		Low					780	1945	Bu.2/
Peaches	1899	High					3,800	1901	Bu.
		Low					15	1982	Bu.3/
Grapes 4/	1909	High					34.4	1935	Ton
		Low					4.9	1945	Ton
Potatoes-total	1866	High	225.0	1895	270	1985	12,269	1909	Cwt
		Low	7.8	1990	27	1881	1,462	1989	Cwt
Sugar beets 5/	1924	High	51.0	1938	21.7	1971	896	1971	Ton
		Low	9.5	1931	5.8	1937	72	1943	Ton
Burley tobacco	1919	High	25.0	1919	2,680	1970	28,350	1982	Lb.
		Low	6.7	1971	715	1935	6,435	1935	Lb.
All tobacco	1866	High	106	1909	2,496	1970	94,575	1918	Lb.
		Low	7.35	1987	620	1875	12,044	1987	Lb.

1/ In case of ties, most recent year designated as record year. 2/ 42 lbs. 3/ 48 lbs. 4/ Utilized production. 5/ No acres contracted in 1982

OHIO AGRICULTURAL STATISTICS DISTRICTS

NUMBER OF FARMS, AVERAGE SIZE OF FARM AND LAND IN FARMS

OHIO AND UNITED STATES, 1988-1990

Year	Number of farms 1/		Average Size Farm		Land in farms	
	Ohio	U.S.	Ohio	U.S.	Ohio	U.S.
	Number		Acres		Thousand acres	
1988	85,000	2,197,100	184	453	15,600	994,543
1989	86,000	2,170,500	183	457	15,700	991,153
1990	84,000	2,143,200	187	461	15,700	987,721

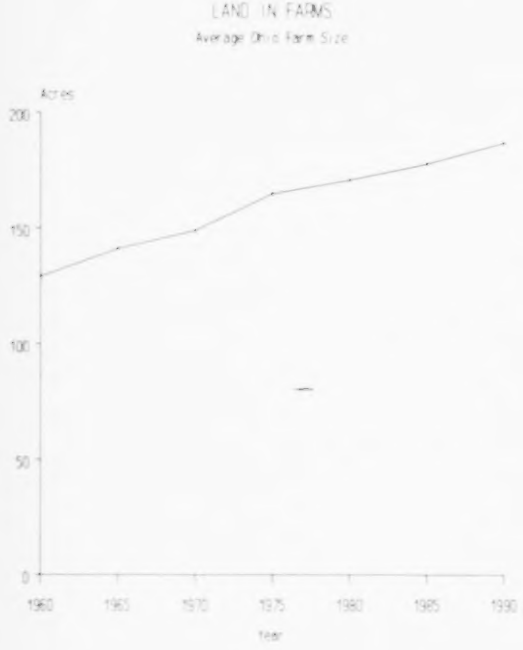
1/ A farm is defined as a place with annual sales of agricultural commodities of $1,000 or more.

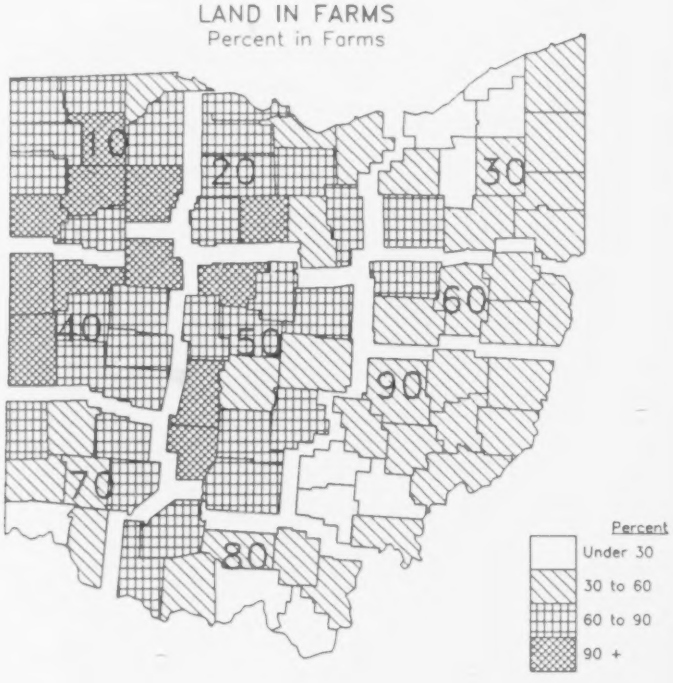
OHIO NUMBER OF FARMS, AVERAGE SIZE OF FARM AND LAND IN FARMS 1989 AND 1990

County	Number of farms 1/		Average size farm		Land in farms	
	1989	1990	1989	1990	1989	1990
	Number		Acres		Acres	
Adams	1,530	1,490	147	151	225,000	225,000
Allen	1,250	1,220	170	175	212,000	213,000
Ashland	1,170	1,150	157	159	184,000	183,000
Ashtabula	1,290	1,260	148	152	191,000	192,000
Athens	610	600	152	153	93,000	92,000
Auglaize	1,210	1,180	190	195	230,000	230,000
Belmont	730	710	174	179	127,000	127,000
Brown	1,740	1,700	129	132	224,000	224,000
Butler	1,090	1,070	152	155	166,000	166,000
Carroll	760	740	159	164	121,000	121,000
Champaign	1,020	1,000	225	230	230,000	230,000
Clark	880	860	227	233	200,000	200,000
Clermont	1,020	1,000	117	119	119,000	119,000
Clinton	940	920	251	257	236,000	236,000
Columbiana	1,190	1,160	137	141	163,000	164,000
Coshocton	960	940	188	190	180,000	179,000
Crawford	950	930	248	255	236,000	237,000
Cuyahoga	170	160	35	38	6,000	6,000
Darke	2,250	2,180	162	167	364,000	365,000
Defiance	1,070	1,050	204	207	218,000	217,000
Delaware	860	840	212	217	182,000	182,000
Erie	520	510	179	180	93,000	92,000
Fairfield	1,320	1,290	169	173	223,000	223,000
Fayette	690	670	384	397	265,000	266,000
Franklin	620	610	197	198	122,000	121,000
Fulton	1,130	1,100	200	205	226,000	226,000
Gallia	960	940	125	128	120,000	120,000
Geauga	770	750	97	99	75,000	74,000
Greene	980	960	213	219	209,000	210,000
Guernsey	930	910	154	157	143,000	143,000
Hamilton	380	370	129	130	49,000	48,000
Hancock	1,320	1,280	235	243	310,000	311,000
Hardin	1,120	1,090	247	255	277,000	278,000
Hassison	510	500	229	234	117,000	117,000
Henry	1,220	1,190	214	220	261,000	262,000
Highland	1,420	1,390	183	187	260,000	260,000
Hocking	450	440	149	152	67,000	67,000
Holmes	1,670	1,630	115	118	192,000	192,000
Huron	1,010	980	240	246	242,000	241,000
Jackson	450	440	196	198	88,000	87,000
Jefferson	480	460	167	174	80,000	80,000
Knox	1,280	1,260	182	185	233,000	233,000
Lake	290	290	69	69	20,000	20,000
Lawrence	600	580	108	110	65,000	64,000
Licking	1,520	1,480	165	169	251,000	250,000
Logan	1,060	1,040	225	230	238,000	239,000
Lorain	1,060	1,040	139	141	147,000	147,000
Lucas	520	510	158	159	82,000	81,000
Madison	800	780	344	353	275,000	275,000
Mahoning	730	710	119	121	87,000	86,000
Marion	690	680	339	344	234,000	234,000
Medina	1,100	1,070	108	111	119,000	119,000
Meigs	570	550	149	153	85,000	84,000
Mercer	1,710	1,670	174	179	298,000	299,000
Miami	1,230	1,200	182	188	224,000	226,000
Monroe	780	760	151	155	118,000	118,000
Montgomery	1,020	990	120	123	122,000	122,000
Morgan	640	630	183	186	117,000	117,000
Morrow	930	910	188	192	175,000	175,000
Muskingum	1,190	1,170	167	169	199,000	198,000

OHIO NUMBER OF FARMS, AVERAGE SIZE OF FARM AND LAND IN FARMS 1989 AND 1990

County	Number of farms 1/		Average size farm		Land in farms	
	1989	1990	1989	1990	1989	1990
	Number		Acres		Acres	
Noble	620	600	181	187	112,000	112,000
Ottawa	620	610	176	177	109,000	108,000
Paulding	780	760	306	316	239,000	240,000
Perry	700	680	156	162	109,000	110,000
Pickaway	850	830	314	320	267,000	266,000
Pike	480	470	208	213	100,000	100,000
Portage	900	880	114	117	103,000	103,000
Preble	1,280	1,250	177	181	226,000	226,000
Putnam	1,740	1,700	178	182	310,000	310,000
Richland	1,100	1,070	155	159	171,000	170,000
Ross	880	860	305	312	268,000	268,000
Sandusky	1,020	990	218	224	222,000	222,000
Scioto	720	700	158	164	114,000	115,000
Seneca	1,520	1,490	205	209	312,000	312,000
Shelby	1,210	1,180	188	193	228,000	228,000
Stark	1,430	1,390	111	114	159,000	159,000
Summit	320	310	72	74	23,000	23,000
Trumbull	1,040	1,020	122	125	127,000	128,000
Tuscarawas	1,120	1,090	141	145	158,000	158,000
Union	980	960	248	253	243,000	243,000
Van Wert	1,000	980	269	277	269,000	271,000
Vinton	230	230	230	230	53,000	53,000
Warren	980	970	144	144	141,000	140,000
Washington	1,030	1,010	147	150	151,000	151,000
Wayne	1,890	1,850	143	146	271,000	271,000
Williams	1,040	1,010	227	235	236,000	237,000
Wood	1,380	1,350	243	248	335,000	335,000
Wyandot	780	770	294	296	229,000	228,000
STATE	86,000	84,000	183	187	15,700,000	15,700,000





OHIO COUNTY ESTIMATES, 1989-1990
CORN FOR GRAIN: ACRES, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Adams	17,600	17,600	106.7	109.3	1,878,700	1,924,300
Allen	51,900	54,000	135.0	128.8	7,008,400	6,954,200
Ashland	33,600	40,500	92.1	112.8	3,094,400	4,569,400
Ashtabula	13,000	23,400	83.4	102.7	1,083,700	2,403,800
Athens	2,300	3,500	92.3	93.2	212,400	326,100
Auglaize	49,200	56,300	127.4	124.2	6,266,900	6,994,600
Belmont	2,400	2,500	80.8	82.9	194,000	207,200
Brown	22,700	25,600	116.2	114.2	2,637,300	2,923,200
Butler	33,600	37,900	111.6	125.1	3,751,100	4,743,000
Carroll	9,700	10,400	96.5	116.5	936,200	1,211,300
Champaign	84,300	90,800	130.6	121.5	11,005,700	11,032,100
Clark	63,500	65,800	117.2	121.2	7,445,000	7,974,600
Clermont	11,400	13,200	123.9	119.4	1,412,400	1,576,300
Clinton	71,300	86,800	127.7	123.8	9,107,200	10,749,700
Columbiana	17,700	20,400	83.3	108.1	1,473,700	2,205,400
Coshocton	26,900	31,100	115.0	120.6	3,093,600	3,750,400
Crawford	61,600	70,900	125.5	124.8	7,732,900	8,845,500
Cuyahoga	*	*	*	*	*	*
Darke	91,800	99,600	123.7	123.2	11,357,500	12,273,100
Defiance	28,100	31,000	116.3	113.8	3,268,600	3,529,300
Delaware	39,100	49,300	107.9	107.2	4,219,900	5,284,500
Erie	29,700	35,700	125.4	126.8	3,725,700	4,526,800
Fairfield	55,200	63,400	101.9	119.7	5,624,600	7,589,900
Fayette	77,500	90,300	126.6	111.6	9,808,800	10,074,400
Franklin	28,100	31,100	112.8	108.6	3,169,100	3,379,000
Fulton	85,800	91,500	138.9	128.5	11,921,500	11,760,700
Gallia	3,500	3,600	125.6	117.8	439,600	424,100
Geauga	4,400	7,600	102.3	120.0	450,200	911,800
Greene	64,800	64,100	119.8	119.8	7,765,700	7,677,200
Guernsey	3,800	5,500	73.1	100.1	277,700	550,500
Hamilton	3,900	3,800	127.7	125.9	498,100	478,600
Hancock	64,300	72,800	131.6	126.7	8,463,200	9,220,500
Hardin	49,300	65,000	120.7	126.2	5,948,600	8,200,400
Harrison	4,500	4,700	94.4	100.8	425,000	473,700
Henry	60,600	72,900	123.1	136.8	7,462,700	9,973,900
Highland	60,200	57,000	129.5	118.5	7,797,300	6,756,100
Hocking	4,600	5,700	107.8	108.4	496,000	617,600
Holmes	21,300	24,800	92.1	111.5	1,961,600	2,766,300
Huron	44,200	63,000	117.0	125.0	5,171,900	7,872,300
Jackson	4,200	5,500	107.0	115.6	449,300	636,000
Jefferson	3,300	3,600	89.1	93.4	294,100	336,100
Knox	49,600	56,300	106.6	109.4	5,284,900	6,156,700
Lake	*	*	*	*	*	*
Lawrence	1,800	1,700	84.8	91.4	152,600	155,300
Licking	44,400	60,700	99.3	105.3	4,407,800	6,388,800
Logan	51,500	63,000	126.3	118.8	6,505,000	7,481,900
Lorain	18,900	25,900	80.4	119.8	1,519,600	3,103,200
Lucas	22,000	24,800	126.9	130.7	2,792,400	3,240,700
Madison	66,500	91,200	121.3	112.2	8,064,000	10,229,900
Mahoning	8,500	15,200	88.2	122.8	749,600	1,866,400
Marion	45,700	64,900	110.4	117.9	5,047,300	7,652,000
Medina	14,400	18,100	97.5	111.0	1,403,900	2,008,600
Meigs	3,300	3,800	97.4	91.8	321,400	349,000
Mercer	61,200	72,300	127.2	125.8	7,785,600	9,092,400
Miami	62,800	70,200	116.6	128.8	7,322,600	9,041,900
Monroe	1,700	2,000	103.4	100.3	175,800	200,600
Montgomery	29,600	34,600	112.3	121.5	3,323,500	4,204,000
Morgan	3,900	4,700	105.9	104.9	412,900	493,200
Morrow	35,900	43,000	97.1	109.9	3,487,300	4,724,400
Muskingum	16,200	18,000	105.8	108.8	1,714,300	1,958,400

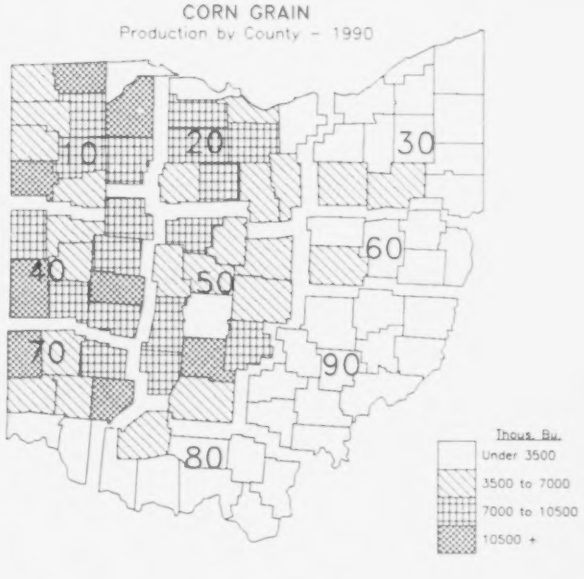
OHIO COUNTY ESTIMATES, 1989-1990
CORN FOR GRAIN: ACRES, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Noble	1,500	1,700	72.1	95.7	108,100	162,700
Ottawa	10,500	19,300	107.8	124.8	1,132,200	2,408,800
Paulding	26,700	47,100	111.0	128.8	2,962,500	6,067,700
Perry	17,000	23,100	100.9	106.9	1,715,800	2,470,200
Pickaway	76,800	99,000	117.6	120.3	9,028,100	11,905,200
Pike	10,900	13,900	84.5	106.8	921,200	1,485,000
Portage	14,600	18,200	96.7	105.1	1,411,900	1,913,200
Preble	74,900	83,700	122.0	129.0	9,139,700	10,793,200
Putnam	56,800	64,200	134.7	127.5	7,651,400	8,185,000
Richland	35,900	38,500	116.3	120.7	4,174,300	4,648,200
Ross	44,100	58,000	116.6	119.2	5,141,300	6,914,300
Sandusky	47,700	59,600	119.5	129.7	5,699,900	7,729,500
Scioto	6,900	9,500	113.8	105.0	785,000	997,200
Seneca	62,700	75,900	117.5	129.0	7,366,900	9,790,500
Shelby	47,900	51,700	128.1	126.7	6,135,900	6,547,900
Stark	24,200	38,200	99.1	112.1	2,397,500	4,283,100
Summit	2,100	2,800	82.0	122.0	172,300	341,600
Trumbull	13,500	22,900	103.3	125.0	1,394,800	2,861,900
Tuscarawas	15,900	18,800	105.8	118.6	1,682,600	2,230,300
Union	39,800	52,500	111.6	112.2	4,442,400	5,888,900
Van Wert	68,800	79,300	135.4	139.9	14,000	11,095,000
Vinton	1,100	1,600	96.7	118.7	106,400	189,900
Warren	25,000	31,300	117.6	116.1	2,941,000	3,635,000
Washington	8,200	9,200	108.2	116.6	887,100	1,072,700
Wayne	49,300	55,000	94.3	118.2	4,650,700	6,499,700
Williams	45,600	51,700	113.9	114.0	5,195,900	5,896,200
Wood	72,900	91,700	116.6	132.8	8,498,300	12,179,700
Wyandot	54,300	57,000	132.8	122.8	7,210,700	7,000,100
Other Counties	1,600	2,000	82.1	103.0	131,300	206,000
State	2,900,000	3,450,000	118.0	121.0	342,200,000	417,450,000

* Counties with less than 1,000 acres not published. Counties with more than 1,000 acres are also not published, if necessary, to preserve the confidentiality of counties with less than 1,000 acres.

CORN FOR GRAIN
District Estimates 1990

District	Acres Planted	Acres Harvested	Yield	Production
10	713,200	681,000	129.40	88,102,900
20	517,200	486,300	124.40	60,494,300
30	270,400	223,800	113.90	25,501,500
40	682,200	634,700	123.90	78,638,900
50	794,800	759,700	113.50	86,188,000
60	113,900	95,900	114.40	10,975,300
70	374,900	355,400	123.40	43,857,000
80	143,000	134,400	113.80	15,301,200
90	90,400	78,800	106.50	8,390,900



OHIO COUNTY ESTIMATES, 1989-1990
SOYBEANS FOR GRAIN: ACRES, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Adams	6,800	6,500	30.8	37.6	209,400	244,400
Allen	85,200	75,200	35.3	41.3	3,005,300	3,104,500
Ashland	23,500	22,200	23.5	35.9	552,100	795,900
Ashtabula	7,300	7,000	26.4	30.7	193,000	215,000
Athens	*	*	*	*	*	*
Auglaize	81,300	71,400	33.6	41.0	2,733,100	2,929,100
Belmont	*	*	*	*	*	*
Brown	47,900	38,400	31.0	35.3	1,483,600	1,354,800
Butler	29,000	24,300	34.7	43.2	1,007,700	1,049,700
Carroll	2,100	1,700	36.4	41.2	76,400	70,000
Champaign	63,900	59,800	35.5	41.4	2,269,600	2,478,000
Clark	61,500	57,100	30.5	41.1	1,877,600	2,348,600
Clermont	36,400	27,600	29.4	35.9	1,069,400	991,900
Clinton	80,800	61,100	35.2	40.8	2,844,300	2,493,300
Columbiana	2,800	2,600	21.9	35.4	61,400	92,000
Coshocton	2,400	2,100	29.5	43.0	70,900	90,300
Crawford	89,800	78,400	32.1	38.9	2,878,300	3,047,600
Cuyahoga	*	*	*	*	*	*
Darke	134,600	124,300	35.6	40.0	4,794,600	4,969,400
Defiance	84,400	78,300	27.7	37.5	2,340,400	2,932,800
Delaware	73,400	71,600	28.4	36.6	2,087,500	2,620,300
Erie	28,100	26,000	34.5	40.1	970,300	1,043,500
Fairfield	39,600	35,000	31.4	38.8	1,243,500	1,358,500
Fayette	100,500	81,300	34.2	38.9	3,434,700	3,161,800
Franklin	44,300	37,200	29.9	32.4	1,323,400	1,204,400
Fulton	84,400	74,300	38.2	44.7	3,228,000	3,323,500
Gallia	*	*	*	*	*	*
Geauga	*	*	*	*	*	*
Greene	62,300	49,800	34.2	39.7	2,131,600	1,978,500
Guernsey	*	*	*	*	*	*
Hamilton	4,900	4,100	35.3	41.1	173,200	168,500
Hancock	129,900	118,300	31.9	36.9	4,148,300	4,363,800
Hardin	107,800	91,600	31.1	38.9	3,347,400	3,560,700
Harrison	*	*	*	*	*	*
Henry	103,100	89,800	31.9	44.9	3,290,600	4,035,300
Highland	65,900	54,000	36.0	37.4	2,369,900	2,020,400
Hocking	1,900	1,900	35.6	42.5	67,600	80,700
Holmes	1,800	1,600	28.4	41.8	51,100	66,800
Huron	86,300	74,300	29.0	37.9	2,504,200	2,816,200
Jackson	*	*	*	*	*	*
Jefferson	*	*	*	*	*	*
Knox	29,100	27,100	27.4	35.0	797,700	948,600
Lake	*	*	*	*	*	*
Lawrence	*	*	*	*	*	*
Licking	47,700	47,700	27.9	37.3	1,330,900	1,779,400
Logan	72,800	54,900	28.6	39.2	2,080,600	2,152,100
Lorain	50,000	46,600	26.1	33.7	1,306,000	1,570,700
Lucas	36,200	32,100	26.2	39.8	949,500	1,279,100
Madison	126,600	97,000	32.0	35.3	4,049,400	3,428,800
Mahoning	3,200	2,200	26.0	33.7	83,100	74,200
Marion	104,400	97,200	29.4	36.3	3,073,800	3,530,200
Medina	17,900	15,700	22.0	32.2	393,500	506,000
Meigs	*	*	*	*	*	*
Mercer	90,500	83,400	35.4	41.1	3,200,300	3,426,900
Miami	74,500	68,200	32.6	43.2	2,431,000	2,945,000
Monroe	*	*	*	*	*	*
Montgomery	43,000	33,500	34.9	41.6	1,500,900	1,392,000
Morgan	*	*	*	*	*	*
Morrow	56,500	56,000	27.9	34.4	1,576,900	1,924,600
Muskingum	1,500	1,300	39.1	38.2	58,600	49,600

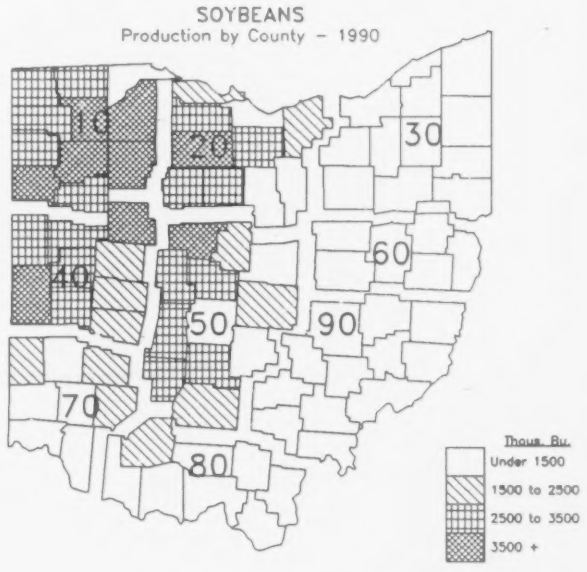
OHIO COUNTY ESTIMATES, 1989-1990
SOYBEANS FOR GRAIN: ACRES, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Noble	*	*	*	*	*	*
Ottawa	53,300	52,300	23.7	38.8	1,263,700	2,031,400
Paulding	97,900	80,500	29.1	38.3	2,848,300	3,084,600
Perry	5,000	4,400	29.6	36.5	148,000	160,600
Pickaway	94,100	85,700	34.4	39.2	3,232,700	3,357,100
Pike	7,300	8,100	41.0	42.8	299,000	346,900
Portage	8,400	7,000	29.3	33.0	246,200	231,000
Preble	68,900	53,800	36.8	43.5	2,536,900	2,338,000
Putnam	130,800	103,600	32.1	36.9	4,199,000	3,821,200
Richland	30,700	27,500	26.6	33.3	815,600	914,700
Ross	47,100	41,000	35.7	40.8	1,680,300	1,673,000
Sandusky	93,700	80,100	26.6	38.7	2,493,000	3,103,000
Scioto	8,400	8,500	39.6	38.9	332,700	330,900
Seneca	128,700	118,100	27.6	36.0	3,553,800	4,253,200
Shelby	73,300	70,100	32.6	43.1	2,389,600	3,020,900
Stark	9,700	8,700	28.9	37.3	280,700	324,900
Summit	1,000	*	32.0	*	40,200	*
Trumbull	11,400	9,200	29.9	34.7	340,900	319,300
Tuscarawas	3,400	3,200	29.2	41.0	99,200	131,200
Union	103,300	91,800	29.0	34.7	2,999,000	3,184,400
Van Wert	110,300	95,900	36.8	46.8	4,063,500	4,490,000
Vinton	*	*	*	*	*	*
Warren	41,800	30,100	34.4	36.5	1,438,500	1,097,800
Washington	1,300	1,100	30.0	43.5	39,000	47,900
Wayne	18,000	16,200	30.3	39.5	544,800	640,000
Williams	76,500	68,700	28.3	37.9	2,165,600	2,600,600
Wood	129,700	112,000	25.7	41.8	3,328,900	4,686,000
Wyandot	90,800	83,000	34.2	38.8	3,105,400	3,223,800
Other Counties	7,400	7,700	30.1	37.7	223,100	290,200
State	3,980,000	3,480,000	31.5	39.0	125,370,000	135,720,000

* Counties with less than 1,000 acres not published. Counties with more than 1,000 acres are also not published, if necessary, to preserve the confidentiality of counties with less than 1,000 acres.

SOYBEANS
District Estimates 1990

District	Acres Planted	Acres Harvested	Yield	Production
10	931,900	928,700	40.60	37,721,400
20	615,600	608,500	37.50	22,800,000
30	71,000	70,400	35.00	2,464,300
40	684,600	680,800	40.90	27,830,700
50	772,100	768,600	36.70	28,171,100
60	9,500	9,400	41.50	389,800
70	284,900	284,300	40.50	11,509,700
80	118,900	118,000	37.30	4,397,800
90	11,500	11,300	38.50	435,200



OHIO COUNTY ESTIMATES, 1989-1990
ALL WHEAT: ACREAGE, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Adams	5,500	6,300	39.9	41.3	219,400	260,300
Allen	28,600	30,500	55.0	65.3	1,574,400	1,992,000
Ashland	8,900	10,700	41.4	46.6	368,100	498,200
Ashtabula	2,800	4,300	37.9	47.5	106,200	204,200
Athens	*	*	*	*	*	*
Auglaize	34,300	39,100	51.7	62.9	1,774,000	2,460,200
Belmont	*	*	*	*	*	*
Brown	6,600	6,200	37.8	42.9	249,500	266,000
Butler	9,400	10,900	55.3	52.1	519,700	568,400
Carroll	1,500	1,600	42.0	59.9	63,000	95,800
Champaign	14,500	15,500	55.2	64.0	799,700	991,800
Clark	11,300	13,200	52.5	66.2	593,300	874,200
Clermont	1,800	2,300	44.2	47.3	79,600	108,700
Clinton	14,500	15,700	48.8	55.7	707,500	873,900
Columbiana	6,300	7,200	46.2	51.4	291,200	370,200
Coshocton	2,200	2,600	39.8	46.8	87,500	121,700
Crawford	33,500	33,700	54.4	63.0	1,822,900	2,122,100
Cuyahoga	*	*	*	*	*	*
Darke	38,200	44,800	56.3	60.5	2,150,400	2,708,200
Defiance	39,100	45,400	46.6	51.0	1,822,300	2,317,000
Delaware	15,700	17,100	49.7	62.9	780,200	1,074,900
Erie	8,800	10,100	55.9	59.5	491,700	600,800
Fairfield	13,900	14,300	38.3	53.9	531,700	770,400
Fayette	16,300	18,800	44.1	60.9	719,300	1,144,000
Franklin	7,400	7,800	45.1	55.8	333,500	435,200
Fulton	17,000	18,300	55.0	65.1	935,000	1,191,000
Gallia	*	*	*	*	*	*
Geauga	*	*	*	*	*	*
Greene	10,600	12,300	47.6	57.3	504,400	704,300
Guernsey	*	*	*	*	*	*
Hamilton	1,100	1,100	58.7	59.6	64,600	65,600
Hancock	50,200	51,000	55.4	62.1	2,782,200	3,168,000
Hardin	39,400	41,700	49.4	60.3	1,947,000	2,513,100
Harrison	*	*	*	*	*	*
Henry	39,500	44,300	60.3	67.0	2,380,800	2,968,000
Highland	15,200	16,900	45.3	49.4	688,100	835,600
Hocking	1,100	1,100	45.0	41.9	49,500	46,100
Holmes	2,500	2,800	39.3	48.3	98,300	135,100
Huron	26,700	26,600	51.7	56.3	1,380,900	1,496,500
Jackson	1,000	*	36.2	*	36,200	*
Jefferson	*	*	*	*	*	*
Knox	8,800	9,900	36.5	47.0	320,800	465,200
Lake	*	*	*	*	*	*
Lawrence	*	*	*	*	*	*
Licking	10,200	12,400	36.5	46.6	371,800	577,500
Logan	22,300	25,200	47.9	56.8	1,067,400	1,431,600
Lorain	10,700	12,900	43.6	53.3	467,000	687,900
Lucas	8,000	8,300	52.0	64.0	416,000	531,000
Madison	13,800	17,200	54.2	65.4	747,700	1,125,200
Mahoning	3,800	5,000	42.7	47.5	162,200	237,300
Marion	25,000	28,000	51.5	60.4	1,286,400	1,690,000
Medina	5,400	7,600	34.4	46.3	185,800	351,900
Meigs	*	*	*	*	*	*
Mercer	38,600	40,500	55.4	62.2	2,139,700	2,519,300
Miami	17,600	21,300	51.3	62.7	903,400	1,334,900
Monroe	*	*	*	*	*	*
Montgomery	8,200	9,900	53.8	58.4	441,100	578,400
Morgan	*	*	*	*	*	*
Morrow	14,300	14,700	42.9	54.5	613,100	801,500
Muskingum	2,000	2,300	40.0	43.3	79,900	99,700

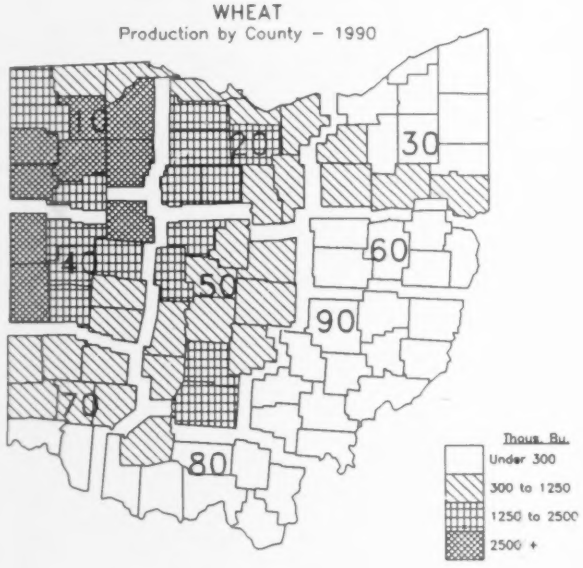
OHIO COUNTY ESTIMATES, 1989-1990
ALL WHEAT: ACREAGE, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Noble	*	*	*	*	*	*
Ottawa	16,700	17,900	50.9	53.9	849,300	964,700
Paulding	48,500	57,000	58.7	60.9	2,844,700	3,473,000
Perry	2,300	3,100	32.0	42.5	73,600	131,700
Pickaway	30,000	36,700	47.0	59.1	1,409,400	2,169,800
Pike	2,600	2,400	31.5	50.5	81,900	121,300
Portage	3,700	4,800	37.4	48.8	138,500	234,000
Preble	15,800	17,100	52.4	59.8	828,100	1,022,100
Putnam	48,700	50,800	55.9	61.5	2,722,300	3,125,000
Richland	10,400	10,800	47.1	54.2	489,800	585,800
Ross	22,300	25,500	45.5	56.3	1,014,000	1,434,500
Sandusky	20,100	22,300	53.2	63.4	1,068,900	1,413,000
Scioto	1,800	1,500	47.6	49.3	85,600	73,900
Seneca	42,500	42,700	50.1	58.5	2,130,500	2,499,300
Shelby	25,700	26,700	50.0	62.0	1,284,600	1,656,700
Stark	7,100	7,600	40.8	51.2	289,700	389,100
Summit	*	*	*	*	*	*
Trumbull	3,100	3,700	41.4	57.0	128,400	210,900
Tuscarawas	2,100	2,500	42.7	54.8	89,600	136,900
Union	22,400	26,600	45.3	55.7	1,014,400	1,481,800
Van Wert	36,400	39,600	60.9	66.9	2,215,000	2,650,000
Vinton	*	*	*	*	*	*
Warren	6,700	7,700	49.0	55.8	328,200	429,600
Washington	2,100	1,600	36.3	37.9	76,300	60,700
Wayne	9,800	10,000	43.5	54.7	426,700	547,200
Williams	34,400	39,400	46.2	51.2	1,587,900	2,018,000
Wood	57,100	57,400	57.3	65.7	3,273,000	3,770,000
Wyandot	37,700	38,300	50.2	61.5	1,893,000	2,356,700
Other Counties	5,900	6,900	39.4	40.8	232,200	281,400
State	1,230,000	1,350,000	51.0	59.0	62,730,000	79,650,000

* Counties with less than 1,000 acres not published. Counties with more than 1,000 acres are also not published, if necessary, to preserve the confidentiality of counties with less than 1,000 acres.

ALL WHEAT
District Estimates 1990

District	Acres Planted	Acres Harvested	Yield	Production
10	454,100	442,000	61.50	27,203,000
20	233,700	226,000	58.50	13,225,000
30	54,800	52,000	50.40	2,623,000
40	276,200	268,000	61.50	16,490,000
50	239,100	229,000	57.50	13,170,000
60	11,400	10,500	50.50	530,000
70	79,600	77,000	56.50	4,351,000
80	39,400	35,000	46.40	1,624,000
90	11,700	10,500	41.30	434,000



OHIO COUNTY ESTIMATES, 1989-1990
OATS FOR GRAIN: ACRES, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Adams	*	*	*	*	*	*
Allen	3,000	1,300	66.1	72.3	198,200	94,000
Ashland	7,700	7,300	61.1	66.3	470,800	484,200
Ashtabula	10,200	7,300	46.6	62.2	474,900	454,200
Athens	*	*	*	*	*	*
Auglaize	4,200	2,900	75.7	71.2	318,100	206,400
Belmont	1,000	*	52.6	*	52,600	*
Brown	*	*	*	*	*	*
Butler	*	*	*	*	*	*
Carroll	3,400	3,600	64.5	71.7	219,200	258,100
Champaign	1,900	1,700	74.7	68.7	141,900	116,800
Clark	1,000	*	71.0	*	71,000	*
Clermont	*	*	*	*	*	*
Clinton	1,000	*	47.5	*	47,500	*
Columbiana	9,900	10,200	66.8	67.5	661,500	688,500
Coshocton	2,500	1,700	50.6	60.6	126,500	103,000
Crawford	3,900	5,000	74.3	74.3	289,800	371,700
Cuyahoga	*	*	*	*	*	*
Darke	4,400	3,500	69.7	72.7	306,600	254,500
Defiance	8,100	6,100	63.8	64.3	516,900	392,000
Delaware	2,200	2,200	47.6	65.6	104,700	144,400
Erie	2,400	1,600	75.7	73.9	181,600	118,200
Fairfield	1,600	2,100	52.4	65.3	83,900	137,200
Fayette	*	*	*	*	*	*
Franklin	*	*	*	*	*	*
Fulton	*	*	*	*	*	*
Gallia	*	*	*	*	*	*
Geauga	3,000	3,000	54.1	67.4	162,400	202,100
Greene	*	*	*	*	*	*
Guernsey	*	1,100	*	48.6	*	53,500
Hamilton	*	*	*	*	*	*
Hancock	2,100	1,200	75.6	85.8	158,700	103,000
Hardin	3,100	1,900	64.9	74.7	201,200	142,000
Harrison	1,800	1,900	65.5	65.9	117,900	125,200
Henry	2,400	2,100	71.9	85.7	172,500	180,000
Highland	1,000	1,000	54.2	60.1	54,200	60,100
Hocking	*	*	*	*	*	*
Holmes	9,800	10,000	64.9	71.3	636,200	712,500
Huron	6,500	5,300	57.3	68.9	372,500	365,200
Jackson	*	*	*	*	*	*
Jefferson	1,300	*	52.0	*	67,600	*
Knox	6,300	5,500	54.8	69.1	345,400	380,000
Lake	*	*	*	*	*	*
Lawrence	*	*	*	*	*	*
Licking	3,500	4,500	57.3	60.1	200,600	270,600
Logan	3,100	3,100	60.6	61.1	187,800	189,400
Lorain	4,900	5,900	51.1	69.3	250,200	408,800
Lucas	*	*	*	*	*	*
Madison	1,000	1,000	74.2	73.2	74,200	73,200
Mahoning	4,600	4,200	61.3	63.2	282,100	265,500
Marion	1,900	2,500	69.5	74.2	132,100	185,600
Medina	4,300	5,000	61.3	61.5	263,500	307,600
Meigs	*	*	*	*	*	*
Mercer	9,000	7,300	70.2	80.2	632,200	585,200
Miami	1,800	*	60.5	*	108,900	*
Monroe	*	*	*	*	*	*
Montgomery	*	*	*	*	*	*
Morgan	*	*	*	*	*	*
Morrow	3,500	2,900	52.3	69.2	183,000	200,800
Muskingum	1,800	2,100	47.2	54.9	84,900	115,300

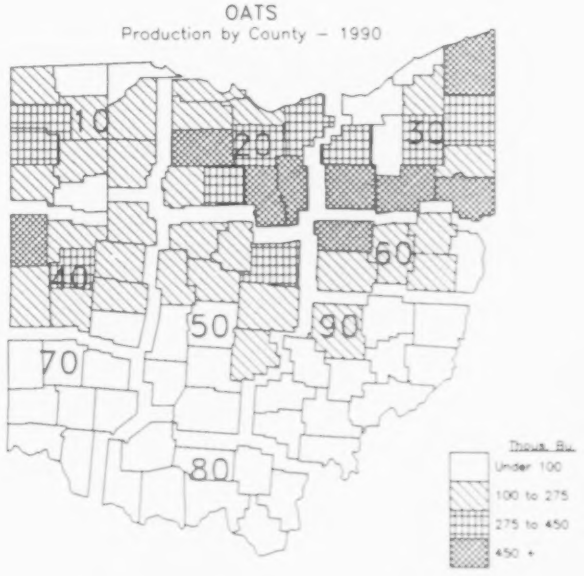
OHIO COUNTY ESTIMATES, 1989-1990
OATS FOR GRAIN: ACRES, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Bu. per acre		Bushels	
Noble	*	*	*	*	*	*
Ottawa	1,300	1,600	78.5	70.3	102,100	112,500
Paulding	6,900	5,200	71.2	81.0	491,200	421,000
Perry	1,000	1,000	40.9	58.2	40,900	58,200
Pickaway	*	1,200	*	75.4	*	90,500
Pike	*	*	*	*	*	*
Portage	5,500	4,900	54.3	70.8	298,700	346,700
Preble	1,000	*	52.4	*	52,400	*
Putnam	4,200	1,800	77.6	80.6	325,800	145,000
Richland	11,000	8,400	65.9	73.1	725,400	613,900
Ross	*	*	*	*	*	*
Sandusky	2,900	3,400	57.0	71.3	165,400	242,300
Scioto	*	*	*	*	*	*
Seneca	8,200	10,100	69.4	74.3	569,000	750,000
Shelby	4,000	4,200	61.5	69.8	245,900	293,200
Stark	10,100	10,000	63.8	77.6	644,400	776,300
Summit	*	*	*	*	*	*
Trumbull	4,400	4,600	61.7	77.8	271,300	357,700
Tuscarawas	3,300	3,600	59.0	62.6	194,600	225,300
Union	2,500	1,900	66.6	73.2	166,600	139,000
Van Wert	3,600	3,200	73.1	76.6	263,300	245,000
Vinton	*	*	*	*	*	*
Warren	*	*	*	*	*	*
Washington	*	*	*	*	*	*
Wayne	10,700	12,500	65.9	74.7	705,300	933,300
Williams	4,400	3,700	68.8	64.6	302,500	239,000
Wood	3,100	2,800	72.0	79.6	223,200	223,000
Wyandot	3,500	2,300	82.8	74.4	289,800	171,200
Other Counties	13,300	15,600	54.0	62.1	718,400	968,100
State	250,000	230,000	63.0	70.0	15,750,000	16,100,000

* Counties with less than 1,000 acres not published. Counties with more than 1,000 acres are also not published, if necesary, to preserve the confidentiality of counties with less than 1,000 acres.

OATS FOR GRAIN
District Estimates 1990

District	Acres Planted	Acres Harvested	Yield	Production
10	32,200	28,300	74.50	2,109,000
20	56,700	50,900	71.50	3,638,000
30	73,300	63,100	70.10	4,421,000
40	32,200	26,500	73.10	1,938,000
50	31,900	26,000	67.60	1,758,000
60	26,600	22,700	67.40	1,531,000
70	4,600	3,300	65.50	216,000
80	3,900	2,800	53.20	149,000
90	8,600	6,400	53.10	340,000



OHIO COUNTY ESTIMATES, 1989-1990
ALL HAY: ACREAGE, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Tons per acre		Tons	
Adams	34,600	28,800	2.83	2.64	98,000	76,000
Allen	7,000	5,200	3.53	3.85	24,700	20,000
Ashland	36,900	28,200	2.99	3.89	110,300	109,800
Ashtabula	48,900	39,300	2.79	3.16	136,400	124,200
Athens	20,400	19,300	2.09	2.26	42,600	43,700
Auglaize	16,400	14,800	3.55	4.97	58,200	73,500
Belmont	38,200	32,900	2.24	2.57	85,700	84,500
Brown	24,700	18,500	2.70	2.83	66,800	52,400
Butler	21,100	17,100	2.42	2.64	51,000	45,200
Carroll	36,900	37,200	2.80	3.86	103,400	143,600
Champaign	11,800	10,500	3.54	4.42	41,800	46,400
Clark	9,300	7,800	3.24	2.76	30,100	21,500
Clermont	10,900	11,100	2.01	2.65	21,900	29,400
Clinton	8,600	7,000	3.12	3.14	26,800	22,000
Columbiana	42,600	35,300	2.62	3.92	111,400	138,200
Coshocton	38,200	33,500	2.62	3.19	99,900	106,800
Crawford	6,700	6,100	3.69	3.87	24,700	23,600
Cuyahoga	1,200	1,000	1.58	2.50	1,900	2,500
Darke	21,100	19,800	3.59	4.18	75,800	82,700
Defiance	6,200	7,100	3.47	5.04	21,500	35,800
Delaware	11,400	8,800	2.89	2.89	33,000	25,400
Erie	5,100	4,100	4.39	4.54	22,400	18,600
Fairfield	11,300	15,600	3.19	3.17	67,900	49,500
Fayette	10,100	8,800	2.78	2.51	28,100	22,100
Franklin	6,200	4,600	2.68	3.28	16,600	15,100
Fulton	4,700	4,300	3.79	3.72	17,800	16,000
Gallia	19,700	19,900	2.76	2.55	54,300	50,700
Geauga	20,500	14,400	2.40	3.85	49,300	55,500
Greene	10,900	8,900	3.20	4.08	34,900	36,300
Guernsey	36,600	33,700	2.37	2.54	86,900	85,600
Hamilton	4,000	3,900	2.60	3.21	10,400	12,500
Hancock	5,700	5,200	4.25	4.12	24,200	21,400
Hardin	8,500	5,100	3.88	3.94	33,000	20,100
Harrison	26,300	27,300	1.77	2.49	46,500	68,100
Henry	8,700	7,800	3.57	4.42	31,100	34,500
Highland	23,100	19,200	2.77	3.54	63,900	68,000
Hocking	8,900	8,000	2.26	2.41	20,100	19,300
Holmes	55,900	54,000	2.64	3.31	147,800	178,800
Huron	9,600	9,900	3.02	3.61	29,000	35,700
Jackson	21,700	20,100	2.24	2.92	48,500	58,600
Jefferson	22,000	18,000	2.28	3.36	50,100	60,500
Knox	33,300	24,100	3.05	3.32	101,600	79,900
Lake	3,900	4,100	1.77	2.66	6,900	10,900
Lawrence	8,600	6,700	1.97	2.46	16,900	16,500
Licking	32,800	23,200	2.44	3.52	80,000	81,600
Logan	17,800	13,500	3.16	3.65	56,300	49,300
Lorain	15,600	12,100	2.80	3.62	43,700	43,800
Lucas	1,900	1,500	3.79	3.53	7,200	5,300
Madison	8,400	5,900	2.99	3.58	25,100	21,100
Mahoning	19,000	15,400	3.16	3.72	60,000	57,300
Marion	4,900	5,100	2.96	3.59	14,500	18,300
Medina	27,400	21,800	2.60	4.13	71,300	90,100
Meigs	18,700	16,600	2.07	2.42	38,700	40,200
Mercer	26,100	22,200	3.85	4.92	100,500	109,300
Miami	9,100	5,600	3.67	3.13	33,400	17,500
Monroe	25,800	23,800	2.32	2.74	59,800	65,300
Montgomery	8,600	6,700	2.37	4.06	20,400	27,200
Morgan	24,300	25,900	2.53	2.03	61,400	52,600
Morrow	12,300	11,300	2.74	3.63	33,700	41,000
Muskingum	48,400	43,400	2.50	2.59	120,900	112,500

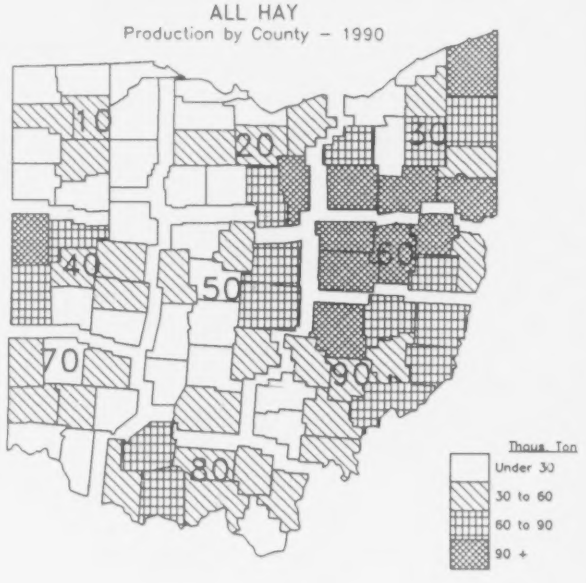
OHIO COUNTY ESTIMATES, 1989-1990
ALL HAY: ACREAGE, YIELD AND PRODUCTION

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Tons per acre		Tons	
Noble	23,800	22,500	2.38	2.26	56,600	50,900
Ottawa	6,100	5,900	3.77	3.88	23,000	22,900
Paulding	5,500	6,500	2.89	2.88	15,900	18,700
Perry	18,500	16,400	2.16	2.99	39,900	49,100
Pickaway	8,700	6,800	2.66	2.82	23,100	19,200
Pike	13,200	11,600	1.88	2.65	24,800	30,700
Portage	21,300	18,800	2.93	3.54	62,400	66,500
Preble	13,600	10,600	3.04	2.98	41,400	31,600
Putnam	12,400	14,500	3.50	3.30	43,400	47,900
Richland	21,400	19,100	2.85	3.37	60,900	64,300
Ross	20,600	18,300	2.81	2.84	57,800	51,900
Sandusky	6,600	4,700	3.42	4.83	22,600	22,700
Scioto	13,700	10,700	3.15	3.35	43,100	35,800
Seneca	10,200	7,800	2.83	4.24	28,900	33,100
Shelby	20,900	11,900	3.61	4.11	75,500	48,900
Stark	36,300	27,500	3.33	3.66	120,900	100,700
Summit	4,500	3,400	1.67	4.06	7,500	13,800
Trumbull	27,000	22,600	2.99	3.62	80,700	81,800
Tuscarawas	38,500	32,500	2.76	3.21	106,400	104,200
Union	13,300	14,300	3.05	3.58	40,500	51,200
Van Wert	4,400	4,200	3.16	3.74	13,900	15,700
Vinton	10,400	11,500	2.85	1.98	29,600	22,800
Warren	13,000	11,500	2.94	2.76	38,200	31,700
Washington	31,500	29,600	2.34	2.47	73,800	73,200
Wayne	77,900	65,700	3.19	4.25	248,200	279,100
Williams	9,700	7,300	3.25	3.41	31,500	24,900
Wood	6,100	6,100	3.16	3.90	19,300	23,800
Wyandot	6,400	6,700	3.47	4.34	22,200	29,100
Other Counties						
State	1,625,000	1,400,000	2.80	3.30	4,553,000	4,620,000

* Counties with less than 1,000 acres not published. Counties with more than 1,000 acres are also not published if necessary, to preserve the confidentiality of counties with less than 1,000 acres.

All Hay
District Estimates 1990

District	Acres Harvested	Yield	Production
10	69,700	3.79	264,000
20	104,600	3.86	403,600
30	269,300	3.79	1,020,600
40	111,200	4.22	469,200
50	146,800	3.24	476,300
60	235,400	3.17	746,500
70	76,800	3.07	235,900
80	135,500	2.87	388,700
90	250,700	2.45	615,200



OHIO SUGAR BEET ACRES, YIELD AND PRODUCTION BY COUNTY, 1989 and 1990

County	Acreage Harvested		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Tons/acre		Tons	
Allen	*	*	*	*	*	*
Erie	*	1,370	*	24.1	*	33,000
Hancock	*	*	*	*	*	*
Hardin	0	0	*	*	0	*
Henry	0	0	*	*	0	*
Huron	*	*	*	*	*	*
Lucas	*	*	*	*	*	*
Ottawa	*	1,640	*	19.3	*	31,600
Putnam	*	1,110	*	15.4	*	17,100
Sandusky	5,720	8,400	16.3	18.9	93,400	158,600
Seneca	2,580	3,400	19.1	18.5	49,400	63,000
Wood	*	1,420	*	14.0	*	19,900
Other Counties	3,600	1,860	15.9	17.1	56,200	31,800
State	11,900	19,200	16.7	18.5	199,000	355,000

* Counties with less than 1,000 acres not published. Counties with more than 1,000 acres are also not published, if necessary, to preserve the confidentiality of those counties with less than 1,000 acres.

OHIO BURLEY TOBACCO ACRES, YIELD AND PRODUCTION BY COUNTY 1989 AND 1990

County	Harvested acres		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Pounds		Pounds	
Adams	2,590	2,570	1,690	2,130	4,377,000	5,474,000
Brown	2,940	3,240	1,935	2,010	5,689,000	6,512,000
Clermont	850	865	2,070	1,990	1,760,000	1,721,000
Gallia	1,100	1,250	1,330	1,650	1,463,000	2,062,000
Highland	645	690	1,855	1,840	1,196,000	1,270,000
Jackson	55	75	1,545	1,800	85,000	135,000
Lawrence	370	390	1,500	1,480	555,000	577,000
Pike	110	150	1,190	1,425	131,000	214,000
Scioto	340	340	1,535	2,145	522,000	729,000
Other 1/	100	130	1,470	1,700	147,000	221,000
State	9,100	9,700	1,750	1,950	15,925,000	18,915,000

1/ Inlcudes Athens, Clinton, Fayette, Greene, Hamilton, Meigs, Monroe, Montgomery, Noble, Ross and Warren in 1989; also Vinton in 1990.

FALL POTATO PRODUCTION AND STOCKS, OHIO, 1988 TO 1990

Crop year	Production	Stocks December 1	Stocks following year			
			January 1	February 1	March 1	April 1
			Thousand hundredweight			
1988	1,697	500	300	50	1/	1/
1989	1,462	350	200	90	1/	1/
1990	1,911	400	260	110	1/	1/

1/ The Ohio stocks estimate was combined with other State estimates to prevent possible disclosure of individual operations.

PROCESSING TOMATOES: HARVESTED ACRES, YIELD, PRODUCTION; OHIO 1989 AND 1990

County	Harvested acreage		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Tons		Tons	
Clinton	180	140	24.9	12.7	4,490	1,800
Darke	1,160	760	16.9	13.3	19,630	10,070
Defiance	570	470	16.9	23.6	9,650	11,060
Fayette	-	790	-	14.7	-	11,560
Fulton	1,580	1,730	21.8	28.5	34,410	49,210
Greene	-	230	-	20.7	-	4,770
Hancock	960	1,000	23.8	22.0	22,880	21,890
Henry	800	1,110	18.5	25.2	14,760	27,800
Lucas	330	380	22.1	25.5	7,280	9,730
Ottawa	890	910	27.7	28.7	24,640	25,950
Putnam	2,530	2,430	22.9	24.3	57,900	58,820
Sandusky	3,600	2,570	23.4	30.9	84,130	79,160
Seneca	910	840	31.1	32.2	28,310	26,990
Williams	450	370	20.6	26.9	9,270	9,960
Wood	1,730	2,020	18.2	26.4	31,570	53,180
Other counties 1/	1,810	1,350	23.4	24.2	42,380	32,560
Total	17,500	17,100	22.4	25.4	391,300	434,510

1/ Other counties include: 1989 only, Allen, Crawford, Fayette and Greene; 1990 only, Hardin and Marion; 1989 and 1990, Erie, Huron, Madison, Mercer, Miami and Van Wert.

PROCESSING TOMATOES: METHOD OF PLANTING AS PERCENT OF HARVESTED ACRES, OHIO, 1989 AND 1990

Method of planting	Harvested acreage		% of total	
	1989	1990	1989	1990
Seeded	900	500	5	3
Transplanted	16,600	16,600	95	97
Total	17,500	17,100	100	100

PROCESSING TOMATOES: METHOD OF HARVESTING AS PERCENT OF HARVESTED ACRES, OHIO, 1989 AND 1990

Method of harvesting	Harvested acreage		% of total	
	1989	1990	1989	1990
Mechanical	15,500	14,800	89	87
Handpicked	2,000	2,300	11	13
Total	17,500	17,100	100	100

OHIO FARM REAL ESTATE VALUE AND CASH RENTS 1986 THROUGH 1991

Year	Average value per acre		Cash rent per acre		
	Actual	% Prev Year	Cropland	Pasture	Whole Farms
	Dollars	Percent	Dollars		
1986	1,136	93	70.30	24.90	65.90
1987	1,097	97	63.20	25.10	58.40
1988	1,199	109	65.60	28.40	62.00
1989	1,262	105	70.80	27.60	66.70
1990	1,204	95	69.10	28.80	68.40
1991	1,217	101	69.10	27.20	67.60

GRAIN STOCKS: TOTAL STOCKS AND PERCENT OF PRODUCTION, BY QUARTERS, OHIO, 1989 AND 1990

Crop	Year	March 1		June 1		September 1		December 1	
		All positions	% of prod. 1/	All positions	% of prod. 1/	All positions	% of prod. 1/	All positions	% of prod. 1/
		Thousand bushels							
Corn	1989	229,900	90	129,500	51	59,100	23	295,100	86
	1990	186,400	54	107,600	31	42,350	12	350,800	84
Soybeans	1989	63,200	63	29,401	29	8,600	9	106,000	85
	1990	71,800	57	41,500	33	11,630	9	113,700	84
Wheat	1989	30,750	67	7,850	17	57,800	92	32,450	52
	1990	16,200	26	7,650	12	77,350	97	57,200	72
Oats 2/	1989			3,100	34				
	1990	6,500	41	4,650	30	12,200	76	10,000	62
All Hay 3/	1989			531	15			2,322	51
	1990			637	14			3,142	68

1/ Percent of production refers to previous year's production, except September 1 for wheat and December 1 for all crops when current year production is used. 2/ Stocks estimated each quarter beginning March 1990. 3/ The reference month for hay stocks is May instead of June and the unit is thousand tons instead of thousand bushels.

GRAIN STOCKS: BY POSITION AND QUARTER, OHIO, 1989 AND 1990

Crop	Year	March 1		June 1		September 1		December 1	
		On farms	Off farms	On farms	Off farms	On farms	Off farms	On farms	Off farms
		Thousand bushels							
Corn	1989	117,000	112,900	58,000	71,500	25,000	34,100	200,000	95,100
	1990	105,000	81,400	58,000	49,600	22,000	20,350	230,000	120,800
Soybeans	1989	22,000	41,200	12,000	17,401	3,800	4,800	52,000	54,000
	1990	37,000	34,800	15,000	26,500	3,000	8,630	47,000	66,700
Wheat	1989	700	30,050	250	7,600	6,500	51,300	2,700	29,750
	1990	1,000	15,200	500	7,150	9,000	68,350	4,000	53,200
Oats	1989			1,400	1,700				
	1990	3,000	3,500	1,300	3,350	6,500	5,700	4,800	5,200

MONTHLY MARKETINGS OF WHEAT, OATS, CORN AND SOYBEANS
PERCENT OF ANNUAL SALES BY MONTHS, OHIO, 1988-89 AND 1989-90

Month	Wheat		Oats		Month	Corn		Soybeans	
	1988-89	1989-90	1988-89	1989-90		1988-89	1989-90	1988-89	1989-90
	Percent					Percent			
Jul	47	52	30	20	Sep	4	4	15	3
Aug	14	15	18	25	Oct	17	15	32	34
Sep	8	8	9	6	Nov	15	16	11	12
Oct	5	4	4	4	Dec	9	9	7	7
Nov	3	2	2	4	Jan	11	13	10	10
Dec	6	6	5	5	Feb	8	8	4	7
Jan	8	7	7	10	Mar	9	8	7	7
Feb	3	2	4	6	Apr	7	7	4	7
Mar	2	1	5	6	May	6	6	3	4
Apr	1	1	6	5	Jun	4	4	3	3
May	1	1	7	6	Jul	6	6	1	3
Jun	2	1	3	3	Aug	4	4	3	3

OFF-FARM COMMERCIAL GRAIN STORAGE CAPACITY, DECEMBER 1, 1989 AND 1990

County	Capacity		County	Capacity		County	Capacity	
	12/1/89	12/1/90		12/1/89	12/1/90		12/1/89	12/1/90
	Thousand bushels			Thousand bushels			Thousand bushels	
Adams	850	850	Hancock	18,698	18,397	Paulding	9,825	6,657
Allen	5,935	4,937	Hardin	6,069	5,955	Perry	86	86
Ashland	2,406	2,398	Harrison	3	3	Pickaway	4,762	4,762
Ashtabula	772	759	Henry	9,334	9,434	Pike	0	0
Athens	7	7	Highland	2,418	2,908	Portage	1,522	1,497
Auglaize	4,782	4,246	Hocking	1,400	1,400	Preble	4,592	4,083
Belmont	16	16	Holmes	77	77	Putnam	3,824	3,824
Brown	155	155	Huron	9,599	9,599	Richland	2,419	2,419
Butler	1,951	1,785	Jackson	115	155	Ross	2,858	2,858
Carroll	9	18	Jefferson	2	2	Sandusky	3,832	3,754
Champaign	7,313	7,313	Knox	1,645	1,645	Scioto	167	167
Clark	3,411	3,260	Lake	0	0	Seneca	4,987	5,327
Clermont	0	0	Lawrence	500	500	Shelby	8,706	8,706
Clinton	5,962	5,962	Licking	2,363	2,309	Stark	664	521
Columbiana	682	882	Logan	2,738	2,448	Summit	0	0
Coshocton	3,270	3,270	Lorain	1,808	1,808	Trumbull	477	477
Crawford	5,244	5,169	Lucas	57,945	57,979	Tuscarawas	273	273
Cuyahoga	507	507	Madison	5,530	5,570	Union	1,353	1,468
Darke	4,446	5,126	Mahoning	1,559	1,059	Van Wert	7,581	7,581
Defiance	3,357	3,327	Marion	10,810	10,556	Vinton	0	0
Delaware	551	1,052	Medina	484	422	Warren	521	521
Erie	3,163	3,163	Meigs	17	10	Washington	6	6
Fairfield	946	946	Mercer	5,018	4,958	Wayne	4,416	2,488
Fayette	5,481	5,651	Miami	5,166	5,166	Williams	4,090	4,006
Franklin	9,833	9,833	Monroe	3	3	Wood	12,281	13,294
Fulton	13,525	12,439	Montromery	4,628	4,628	Wyandot	14,180	14,105
Gallia	8	8	Morgan	10	10			
Geauga	167	167	Morrow	3,995	3,295			
Greene	2,405	2,418	Muskingum	2,185	2,185	Ohio	350,080	342,410
Guernsey	4	4	Noble	2	2			
Hamilton	12,747	12,747	Ottawa	2,632	2,632			

OHIO CORN SILAGE HARVESTED ACRES, YIELD AND PRODUCTION BY DISTRICTS, 1989 AND 1990

District	Harvested acres		Yield		Production	
	1989	1990	1989	1990	1989	1990
	Acres		Tons per acre		Tons	
10	32,000	12,400	16.0	17.5	512,400	216,700
20	27,500	26,500	11.8	15.4	325,500	408,600
30	51,100	41,500	10.9	14.7	555,000	610,000
40	42,400	31,400	17.4	17.7	739,500	555,200
50	28,300	28,500	14.1	15.2	398,800	433,600
60	19,600	15,700	12.1	15.9	237,500	250,100
70	15,800	7,700	16.7	18.3	264,100	140,900
80	9,400	6,600	17.3	17.5	162,600	115,300
90	13,900	9,700	11.8	15.4	164,600	149,600
State	240,000	180,000	14.0	16.0	3,360,000	2,880,000

1990 LIVESTOCK, DAIRY AND POULTRY SUMMARY

Cash receipts from cattle, hog and sheep marketings in Ohio during 1990 totaled $854,372,000; 9 percent more than the cash receipts from these same commodities only a year earlier. Hog cash receipts led the advance with $448,991,000 for a 17 percent increase from the previous year. Hog marketings were down from 1989 to 1990 but a price per hundredweight increase of 23 percent during the same period more than compensated for the five percent volume decline. Cattle cash receipts increased a modest one percent from 1989 to 1990. Producers marketed fewer pounds of cattle but higher prices offset the lighter volume. Sheep and lamb cash receipts declined 18 percent from a year earlier because of both lower marketings and prices. Hogs contributed 52 percent to the cash receipts from meat animals; cattle, 47 percent; sheep and lambs, one percent.

The number of cattle and calves in Ohio on January 1, 1991 was estimated at 1,580,000 head, a decline of four percent from a year earlier. The value per head on the inventory date was $690, a new record high which surpassed the old record set only a year ago by $45. The total value of all cattle reached $1,090,200,000; only one million dollars less than the record high set in 1989. The inventory estimates by classes mostly held steady or declined for breeding stock, indicating the cattle industry in Ohio will continue to decline during 1991. The only categories to display increased inventory from a year earlier were steers, bulls and other heifers weighing 500 pounds or more and cattle on feed. Farmers seem to be sending more cattle to slaughter rather than increasing the size of their herds. The number of cattle operations increased from 1989 to 1990 while operations with beef cows or milk cows declined. Cattle and calf production totaled 749,930,000 pounds during 1990; an increase of 51 percent from a year earlier. Marketings of 548,550,000 pounds during 1990 declined five percent from 1989. The average price of cattle during 1990 was $71.70 per hundredweight (cwt) and calves, $87.90. The average calf price was up 90 cents and the average cattle price was up $4.80 per cwt from a year earlier. The higher prices pushed cash receipts one percent higher than a year earlier and offset the lower marketings.

Ohio hog producers had 2,000,000 hogs on hand December 1, 1990; 4 percent fewer than a year earlier. The number of market hogs, at 1,748,000, were 3 percent less than the year earlier figure. Breeding stock of 252,000 head was 7 percent less than a year ago. The pig crop during 1990 numbered 3,394,0000 head; eight percent less than the pig crop during 1989. The number of sows farrowed (424,000) was nine percent less than a year earlier. The number of pigs saved per litter, at 8.0 per sow, was up from the 7.9 saved per sow a year earlier. The higher farrowing rate could not offset the fewer number of sows farrowed and produced the smaller pig crop for 1990. The average value per head of all hogs including breeding stock and market hogs of all weights was $83.00. This was up $4.50 per head from a year earlier and $6.50 less than the record high set in 1986. Estimates by size of operation indicate the largest 4.0 percent of Ohio hog producers had 32.0 percent of the inventory on December 1, 1990. The smallest had 64.0 percent of the operations and controlled only 10.0 percent of the inventory. The remaining 32.0 percent of the operations had 58.0 percent of the inventory. Hog production totaled 837,348,000 pounds during 1990, a decline of six percent from the 888,876,000 pounds produced in 1989. Marketings of 856,535,000 pounds fell five percent from a year earlier. Cash receipts of $448,991,000 advanced 17 percent because the price per cwt at $52.40 for 1990 was $10.00 higher than the 1989 price.

The number of sheep took another healthy jump during the past year with 305,000 sheep and lambs on Ohio farms. This number is 13 percent (35,000 head) higher than a year earlier. All categories of sheep were the same or higher than a year earlier. Stock sheep increased 12 percent. Ewe lamb numbers advanced 19 percent and ewes one year old and older increased 11 percent. Wether and ram lambs was the only category to show no change from a year earlier but older wethers and rams increased 25 percent. Ohio sheep producers appear to be building up their flocks. The average value of sheep, at $73.00 per head declined 13 percent ($11 per head) from a year earlier. The total value of all sheep in Ohio was $22,265,000; down only 2 percent ($415,000) from a year earlier because the greater number of sheep limited the decline. The number of operations with sheep increased by 100 from a year earlier. A farm is counted as a sheep operation even if only one sheep or lamb was present at any time during the year. Sheep and lamb production during 1990 totaled 17,380,000 pounds for a modest one percent increase from a year earlier. Marketings of 13,390,000 pounds declined 11 percent from a year earlier. Cash receipts totaled $7,081,000 for 1990 for a decline of 18 percent from a year earlier.

Ohio milk production during 1990 totaled 4,495,000,000 pounds, a decline of one percent (40,000,000 pounds) from the 1989 output. The 1990 yield per cow was 13,143 pounds which works out to slightly more than 36 pounds per day. This annual yield is up 149 pounds from 1989. The value of milk produced in Ohio during 1990 was $624,805,000; a two percent increase from 1989 because of higher milk prices. The price of milk averaged $13.90 per cwt during 1990 compared with $13.46 in 1989. The January 1990 milk price was $16.00 per cwt and dropped steadily through the year to close in December 1990 at $11.60.

Chicken inventory totaled 21,020,000 on December 1, 1990; a decline of four percent from a year ago. There were 17,700,000 layers among the total showing a five percent increase in numbers. Pullets not yet of laying age numbered 3,300,000 which was 34 percent less than the previous year. Ohio egg production totaled 4,667,000,000 eggs during 1990, a seven percent increase from 1989. Egg prices averaged 59.1 cents per dozen during 1990, an increase of 8.7 cents per dozen from a year earlier. The increased production and the higher price boosted total value of egg production to $229,850,000 in 1990 compared with $183,414,000 in 1989. This is an increase of 25 percent.

The number of turkeys produced in Ohio during the 1990 production season (September 1989 through August 1990) was 4,750,000; up 16 percent from a year earlier. These birds weighed a total of 134,900,000 pounds or 22 percent more than the previous year. The price per pound for 1990 was 39 cents; down 2 cents per pound from the 1989 price. The value of turkey production during 1990 in Ohio was $52,611,000; a 16 percent increase from the 1989 value of production.

Broiler production totaled 96,350,000 pounds in 1990, up 34 percent from the 1989 figure of 72,000,000 pounds. Producers received a liveweight equivalent price of 27 cents per pound during 1990; down 2 cents from a year earlier. Value of 1990 broiler production was $26,015,000; up almost 25 percent from the $20,880,000 in 1989.

The number of bee colonies in Ohio during 1990 totaled 40,000, a decline of 13,000 colonies from a year earlier. The yield per colony bounced back from the devastatingly low yield of the previous year when a rainy spring curtailed bee activity and production. Apiarists left a significant part of the 1989 production in the colony to feed the bees during the winter. Apparently many weak colonies did not survive. Total honey production taken from Ohio colonies during 1990 was 2,040,000 pounds; a 92 percent increase from the disappointing 1989 output of 1,060,000 pounds. Honey stocks in Ohio on December 15, 1990 amounted to 612,000 pounds, 48 percent more than a year earlier. The price also improved and reached 98 cents per pound for 1990 versus the 1989 price of 67 cents. The higher production and price increased value of production to $1,999,000; much better than the $710,000 in 1989.

CATTLE AND CALVES: OHIO AND UNITED STATES, JANUARY 1, 1990 AND 1991

	Ohio			United States		
	1990	1991	1991/90	1990	1991	1991/90
	Thousand head		Percent	Thousand head		Percent
Cattle and calves	1,650	1,580	96	98,162	99,436	101
Cows & heifers that calved	734	710	97	43,353	43,779	101
Beef cows	380	370	97	33,200	33,620	101
Milk cows	354	340	96	10,153	10,159	100
Heifers 500 pounds and over	310	315	102	17,673	18,162	103
For beef cow replacement	65	65	100	5,418	5,585	103
For milk cow replacement	160	160	100	4,227	4,194	99
Other heifers	85	90	106	8,028	8,383	104
Steers 500 pounds and over	205	215	105	15,911	16,548	104
Bulls 500 pounds and over	36	38	106	2,195	2,228	101
Calves under 500 pounds	365	302	83	19,031	18,720	98
Calf crop 1/	645	610	95	40,102	39,879	99
Cattle on feed	210	230	110	11,626	12,742	110
Cattle and calves	Dollars			Dollars		
Value per head ($)	645	690	107	614	653	106
Total value ($000)	1,064,250	1,090,200	102	60,285,432	64,900,175	108
Number of operations with:	Number			Number		
Cattle 1/	42,000	43,000	102	1,323,300	1,288,610	97
Beef cows 1/ 2/	24,000	23,000	96	949,140	932,020	98
Milk cows 1/ 2/	9,200	9,000	98	203,710	193,790	95

1/ During 1989 and 1990. 2/ Included in number of cattle operations.

CATTLE AND CALF INVENTORY AND DISPOSITION, OHIO, 1988 TO 1990

Year	On hand January 1	Calves born	Inship-ments	Marketings		On farm slaughter	Deaths	
				Cattle	Calves		Cattle	Calves
	Thousand head							
1988	1,820	685	46	544	175	7	35	60
1989	1,730	645	52	520	168	4	25	60
1990	1,650	610	54	490	159	5	25	55

CATTLE AND CALF PRODUCTION AND INCOME, OHIO, 1988 TO 1990

Year	Production	Marketings	Average price per 100 lbs.		Cash receipts	Value of home consumption	Gross income
			Cattle	Calves			
	Thousand pounds		Dollars		Thousand dollars		
1988	560,510	614,190	63.70	86.10	398,351	19,233	417,584
1989	498,000	577,850	66.90	87.00	393,034	21,235	414,269
1990	749,930	548,550	71.70	87.90	398,300	15,992	414,292

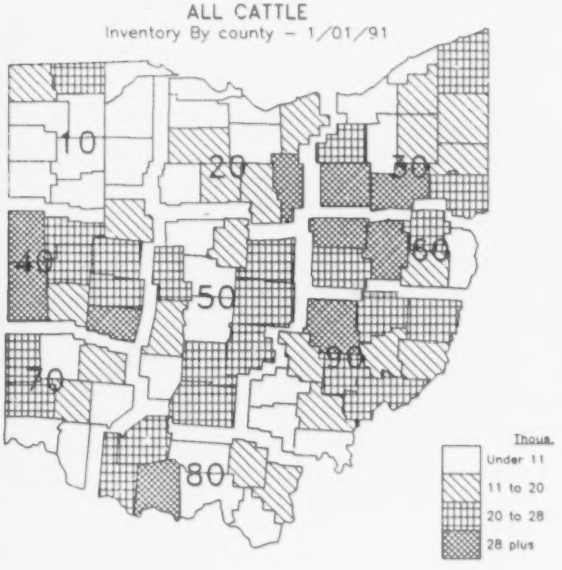
OHIO COUNTY ESTIMATES ALL CATTLE AND CALVES, MILK COWS AND MILK SOLD

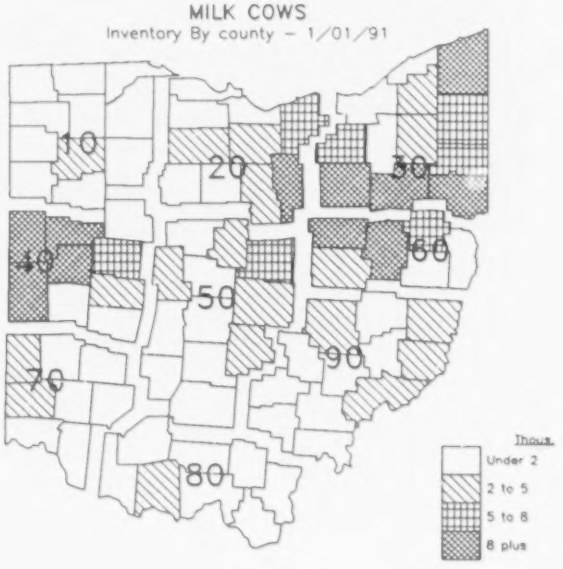
County	Cattle & Calves		Milk cows		Milk sold	
	1/1/90	1/1/91	1/1/90	1/1/91	1/1/90	1/1/91
	Number		Number		Million Pounds	
Adams	31,000	29,000	5,150	4,600	49.5	46.2
Allen	11,500	10,700	1,300	1,200	19.0	17.9
Ashland	38,200	36,300	12,700	11,700	150.4	151.0
Ashtabula	25,500	24,500	13,100	12,900	149.6	144.6
Athens	14,700	14,000	1,600	1,500	20.2	19.1
Auglaize	28,600	27,000	9,700	8,900	133.9	133.1
Belmont	26,400	24,800	3,150	3,200	33.9	34.0
Brown	22,700	22,000	2,450	2,200	23.3	21.8
Butler	22,100	21,600	3,650	3,500	42.9	41.9
Carroll	28,100	26,200	6,250	6,300	65.2	63.8
Champaign	27,300	26,500	5,700	5,300	61.1	58.0
Clark	40,900	38,000	1,400	1,300	11.6	11.2
Clermont	7,200	6,800	1,100	1,000	8.9	8.8
Clinton	11,300	11,000	1,300	1,300	15.6	14.2
Columbiana	25,900	25,000	12,400	12,400	153.8	157.0
Coshocton	21,800	20,700	5,050	5,100	63.5	62.3
Crawford	16,800	16,000	2,050	1,900	28.0	28.0
Cuyahoga	*	*	*	*	*	*
Darke	39,500	38,000	10,100	9,400	137.1	136.2
Defiance	10,800	10,100	2,500	2,200	30.6	29.3
Delaware	10,900	10,600	2,150	2,000	24.9	23.5
Erie	9,500	8,900	2,000	1,800	14.0	14.8
Fairfield	23,200	22,000	3,050	2,900	37.1	35.4
Fayette	9,200	9,000	*	*	*	*
Franklin	6,500	6,200	*	*	*	*
Fulton	23,800	22,800	2,050	1,900	28.9	28.7
Gallia	19,500	18,700	2,250	2,100	27.3	26.3
Geauga	15,500	15,100	4,800	4,700	58.8	59.9
Greene	17,100	16,200	*	*	*	*
Guernsey	23,400	22,700	1,850	1,800	21.4	18.7
Hamilton	4,200	4,000	*	*	*	*
Hancock	5,700	5,400	1,250	1,200	12.1	12.0
Hardin	18,400	17,500	2,000	1,900	29.8	29.5
Harrison	18,300	17,000	2,300	2,300	34.1	33.8
Henry	8,200	8,000	1,250	1,200	15.6	14.7
Highland	23,300	22,600	2,450	2,300	28.4	26.7
Hocking	5,600	5,300	*	*	*	*
Holmes	50,000	47,000	21,100	21,500	253.0	248.4
Huron	11,800	11,100	3,950	3,700	57.1	54.2
Jackson	12,100	12,000	*	*	*	*
Jefferson	10,900	10,300	1,500	1,500	21.7	21.9
Knox	26,000	24,500	8,200	7,800	99.9	94.5
Lake	*	*	*	*	*	*
Lawrence	9,000	8,900	*	*	*	*
Licking	26,500	25,600	5,150	4,900	61.7	59.3
Logan	23,600	22,000	6,200	5,800	87.6	85.5
Lorain	13,700	13,000	6,100	5,700	80.2	80.3
Lucas	1,100	1,000	*	*	*	*
Madison	19,700	18,800	2,250	2,100	24.8	24.4
Mahoning	14,000	13,800	6,150	6,000	71.1	69.5
Marion	9,800	9,700	1,250	1,200	16.6	16.2
Medina	23,000	22,500	7,500	7,400	95.5	92.0
Meigs	11,400	11,000	1,500	1,500	16.6	17.2
Mercer	52,900	50,000	19,400	18,000	283.9	281.3
Miami	18,400	17,500	2,300	2,100	29.2	28.2
Monroe	18,000	17,000	2,700	2,600	27.4	26.9
Montgomery	7,500	7,400	1,350	1,300	18.4	16.6
Morgan	22,600	21,500	1,400	1,400	19.5	18.0
Morrow	13,900	13,500	2,950	2,800	31.2	29.8
Muskingum	34,200	33,500	3,150	3,100	40.2	38.4

OHIO COUNTY ESTIMATES ALL CATTLE AND CALVES, MILK COWS AND MILK SOLD

County	Cattle & Calves		Milk cows		Milk sold	
	1/1/90	1/1/91	1/1/90	1/1/91	1/1/90	1/1/91
	Number		Number		Million Pounds	
Noble	15,500	15,000	*	*	*	*
Ottawa	1,900	1,800	*	*	*	*
Paulding	5,300	4,900	*	*	*	*
Perry	13,300	13,000	*	*	*	*
Pickaway	23,800	23,100	1,250	1,200	11.8	12.0
Pike	11,600	11,300	1,050	*	8.2	*
Portage	14,500	14,000	4,150	4,000	52.6	52.1
Preble	22,200	22,000	3,400	3,300	42.3	38.4
Putnam	11,000	10,600	2,950	2,600	42.5	41.6
Richland	19,900	19,200	5,700	5,300	72.7	73.7
Ross	25,400	24,000	1,500	1,400	14.0	14.0
Sandusky	10,100	9,500	1,700	1,600	14.7	14.6
Scioto	10,800	10,500	1,150	1,000	25.1	24.9
Seneca	12,700	12,100	2,950	2,800	35.0	35.8
Shelby	29,400	28,500	9,900	9,100	129.0	128.0
Stark	32,000	31,000	12,400	12,200	185.9	190.0
Summit	1,800	1,800	*	*	*	*
Trumbull	19,000	18,500	7,750	7,650	91.1	88.6
Tuscarawas	30,500	29,000	8,650	9,000	154.8	158.5
Union	23,100	23,000	3,300	3,150	37.5	38.0
Van Wert	4,600	4,200	1,150	1,100	16.5	15.6
Vinton	7,300	7,000	*	*	*	*
Warren	16,400	16,000	1,550	1,500	17.6	16.3
Washington	26,000	25,000	3,100	3,000	43.3	40.8
Wayne	101,000	97,000	35,700	35,200	515.4	519.7
Williams	20,800	19,500	2,050	1,900	29.7	27.6
Wood	8,200	7,800	*	*	*	*
Wyandot	7,400	7,100	*	*	*	*
Other Counties	1,800	1,800	10,400	10,600	119.2	124.8
State	1,650,000	1,580,000	354,000	340,000	4,525.0	4,460.0

*Counties with less than 1,000 head not published. Counties with more than 1,000 head are also unpublished, if necessary, to preserve the confidentiality of counties with less than 1,000 head.





MILK COWS ON FARMS, MILK PER COW, TOTAL MILK PRODUCTION, MILKFAT, BY MONTHS, OHIO 1989 AND 1990

Month	Cows on farms		Milk per cow		Milk production		Milkfat-milk	
	1989	1990	1989	1990	1989	1990	1989	1990
	Thousand head		Pounds		Million pounds		Percent	
January	351	346	1,145	1,075	402	372	3.74	3.79
February	350	345	1,055	1,040	369	358	3.80	3.75
March	351	344	1,170	1,150	411	396	3.79	3.74
April	351	342	1,160	1,125	407	385	3.75	3.72
May	352	340	1,220	1,215	429	413	3.64	3.64
June	350	342	1,085	1,130	380	386	3.60	3.58
July	349	340	1,070	1,130	373	384	3.54	3.55
August	348	341	1,060	1,100	369	375	3.52	3.55
September	348	340	1,005	1,040	350	354	3.61	3.61
October	348	340	1,015	1,060	353	360	3.71	3.77
November	348	340	985	1,025	343	349	3.80	3.83
December	346	341	1,010	1,065	349	363	3.88	3.82
Annual	349	342	12,994	13,143	4,535	4,495	3.70	3.69

MILK PRODUCTION AND DISPOSITION, OHIO, 1989 AND 1990

Year	Milk used where produced			Milk marketed by producers			Total milk produced
	Fed to calves	Used for milk, cream and butter	Total	Sold to plants and dealers	Sold directly to consumers 1/	Total marketed	
				Million pounds			
1989	20	10	30	4,490	15	4,505	4,535
1990	20	15	35	4,460	NA	4,460	4,495

1/ Includes institutional herds.

MILK MARKETED, PRICE, CASH RECEIPTS, AND VALUE, OHIO, 1989 AND 1990

Year	Combined marketings milk & cream			Used for milk, cream & butter where produced		Gross producer income	Value of milk produced
	Milk utilized	Price per 100 lbs.	Cash receipts from marketings	Milk utilized	Value		
	Mil. lbs.	Dollars	(000) $	Mil. lbs.	(000) $	(000) $	(000) $
1989	4,505	13.46	606,265	10	1,346	607,610	610,302
1990	4,460	13.90	619,940	15	2,085	622,025	624,805

MILK COW OPERATIONS AND INVENTORY BY SIZE GROUPS AS PERCENT OF TOTAL, OHIO, 1988 AND 1989

Item	Size of operation							
	1 to 29 head		30 to 49 head		50 to 99 head		100 or more head	
	1988	1989	1988	1989	1988	1989	1988	1989
	Percent							
Operations	50.5	50.0	21.1	20.7	22.1	22.8	6.3	6.5
Inventory	17.7	16.9	19.3	18.1	39.8	40.1	23.2	24.9

MANUFACTURED DAIRY PRODUCTS PRODUCTION BY MONTHS, OHIO, 1989 AND 1990

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
						Swiss cheese - thousand pounds							
1989	5,378	5,160	5,589	5,628	6,409	5,588	4,958	4,978	4,049	3,826	2,484	2,886	56,933
1990	4,328	4,561	5,557	5,822	6,550	6,449	5,589	5,125	4,645	4,096	3,258	4,164	60,144
						All cheese - thousand pounds							
1989	8,611	7,695	8,255	7,865	9,555	8,377	7,353	7,752	7,027	6,838	6,420	6,389	92,137
1990	7,499	7,418	8,599	8,745	9,847	9,444	8,847	8,220	7,553	7,616	7,173	7,639	98,600
						Cottage cheese curd - thousand pounds							
1989	1,715	2,014	2,234	2,220	2,068	1,899	1,731	2,041	1,718	1,695	1,679	1,447	22,461
1990	2,228	2,300	2,251	2,141	1,915	1,774	1,800	1,890	1,723	1,745	1,909	1,620	23,296
						Lowfat cottage cheese - thousand pounds							
1989	1353	1348	1781	1777	1730	1571	1304	1400	1510	1415	1071	1269	17529
1990	1488	1648	1488	1479	1426	1736	1398	1411	1165	1432	1298	1344	17313
						Creamed cottage cheese - thousand pounds							
1989	2552	2460	3546	3985	4237	3928	3233	4516	3605	3559	3668	2949	42238
1990	3512	3286	3889	3529	3584	2969	3297	3550	3063	3081	3131	2475	39366
						Ice cream mix - thousand gallons							
1989	1043	1252	1543	1443	1726	1968	1903	1789	1474	1134	1163	1022	17460
1990	1293	1575	1828	1636	1868	2083	1946	1807	1479	1488	1160	1271	19434
						Ice milk mix - thousand gallons							
1989	371	379	628	666	966	1074	1081	996	657	384	464	231	7897
1990	315	567	855	679	1051	1244	1222	1145	703	453	304	296	8834
						Milk sherbet mix - thousand gallons							
1989	88	79	139	147	208	185	158	123	87	81	77	96	1468
1990	122	108	141	124	196	186	209	148	115	108	108	112	1677
						Ice cream - thousand gallons							
1989	1893	2260	2697	2504	2916	3260	3174	2967	2549	2240	2174	1937	30571
1990	2500	3144	3684	3428	4007	4372	4124	3745	3226	3194	2539	2772	40735
						Ice milk - thousand gallons							
1989	691	727	1140	1221	1764	1963	1962	1806	1245	830	877	561	14787
1990	633	1045	1561	1332	1767	2090	2080	1971	1246	831	634	620	15810
						Milk sherbet - thousand gallons							
1989	169	162	251	251	293	295	281	229	168	140	148	190	2577
1990	202	206	337	328	411	417	411	368	239	210	187	202	3518
						Water ices - thousand gallons							
1989	34	44	251	438	268	433	167	308	134	33	40	42	2192
1990	213	399	650	734	634	663	484	696	417	336	331	333	5890

HOG INVENTORY NUMBERS, PIG CROP AND DISPOSITION, OHIO, 1988 TO 1990

Year	December 1 inventory 1/	Pig crop		Inshipments	Marketings 2/	Farm 3/ slaughter	Deaths
		Dec-May	Jun.-Nov.				
				Thousand head			
1988	2,100	1,841	1,827	192	3,522	13	215
1989	2,210	1,884	1,808	160	3,744	8	230
1990	2,080	1,774	1,620	153	3,455	3	169

1/ December 1 previous year. 2/ Excludes interfarm sales. 3/ Excludes custom slaughter for farmers at commercial establishments.

HOGS AND PIGS: QUARTERLY INVENTORY BY CLASSES OHIO 1989 AND 1990, UNITED STATES 1990

Year and quarter	Total hogs	Breeding hogs	Market hogs and pigs				
			Under 60 lbs.	60-119 lbs.	120-179 lbs.	180 lbs. and over	Total
	Thousand head						
Ohio							
Mar. 1, 1989	2,050	300	700	403	370	277	1,750
June 1, 1989	2,200	300	855	455	340	250	1,900
Sep. 1, 1989	2,250	285	800	465	400	300	1,965
Dec. 1, 1989	2,080	270	660	462	389	299	1,810
Mar. 1, 1990	1,910	270	654	370	343	273	1,640
June 1, 1990	2,100	280	815	450	320	235	1,820
Sep. 1, 1990	2,070	260	720	445	390	255	1,810
Dec. 1, 1990	2,000	252	660	438	350	300	1,748
United States							
Mar. 1, 1990	51,150	6,806	16,895	10,602	9,209	7,638	44,344
June 1, 1990	53,850	7,075	19,806	11,718	8,535	6,716	46,775
Sep. 1, 1990	55,940	6,815	18,936	12,218	10,132	7,839	49,125
Dec. 1, 1990	54,562	6,872	17,881	12,224	9,679	7,906	47,690

HOG PRODUCTION AND INCOME, OHIO, 1988 TO 1990

Year	Production	Marketings	Price per cwt.	Cash receipts	Value of home consumption	Gross income
	Thousand pounds		Dollars	Thousand dollars		
1988	881,870	874,372	42.20	369,267	3,184	372,451
1989	888,876	903,566	42.40	383,456	1,648	385,074
1990	837,348	856,535	52.40	448,991	1,478	450,469

FARROWINGS, PIGS PER LITTER, AND PIG CROP, OHIO, 1989 AND 1990

Year	December 1/ - May			June - November		
	Sows farrowed	Pigs/litter	Pig crop	Sows farrowed	Pigs/litter	Pig crop
	Thou. head	Head	Thou. head	Thou. head	Head	Thou. head
1989	240	7.85	1,884	226	8.00	1,808
1990	219	8.10	1,774	205	7.90	1,620

1/ December previous year.

HOG AND PIG OPERATIONS AND INVENTORY BY SIZE GROUPS AS PERCENT OF TOTAL OHIO 1989 AND 1990

Item	Size of operation							
	1-99 head		100 to 499 head		500 to 999 head		1000 +	
	1989	1990	1989	1990	1989	1990	1989	1990
	Percent							
Operations	68.0	64.0	23.0	27.0	5.8	5.0	3.2	4.0
Inventory	11.0	10.0	32.0	33.0	27.0	25.0	30.0	32.0

SHEEP: OHIO AND UNITED STATES, JANUARY 1, 1990 AND 1991

Class	Ohio			United States		
	1990	1991	1991/90	1990	1991	1991/90
	Thousand head		Percent	Thousand head		Percent
All sheep and lambs 1/	270	305	113	11,363	11,200	99
On feed	65	75	115	1,762	1,730	98
Stock sheep	205	230	112	9,601	9,471	99
Lambs						
Ewes	27	32	119	1,324	1,342	101
Wethers & rams	4	4	100	312	351	113
One year old & older						
Ewes	166	184	111	7,609	7,429	98
Wethers & rams	8	10	125	356	349	98
New crop lambs 2/	11	15	136	774	761	98
Lamb crop 3/	200	205	103	7,725	7,704	100
	Dollars			Dollars		
All sheep & lambs						
Value per head ($) 4/	84.00	73.00	87	79.30	65.60	83
Total value ($000)	22,680	22,265	98	901,545	734,868	82
	Number			Number		
Operations with sheep 5/	7,300	7,400	101	111,140	109,690	99

1/ New crop lambs are not included in sheep and lamb inventory estimates in this report. 2/ Includes all lambs born after September 30 previous year that are on hand January 1. 3/ Lamb crop is lambs born in the Native States plus docked or branded in the Western States for the period October 1-September 30. 4/ Based on reporters' estimates of average price per head in their localities. 5/ An operation is any place having at least one sheep on hand at any time during the year.

SHEEP AND LAMB INVENTORY AND DISPOSITION, OHIO, 1988 TO 1990

Year	On hand January 1	Lamb crop	Inship-ments	Marketings		Farm slaughter	Deaths	
				Sheep	Lambs		Sheep	Lambs
	Thousand head							
1988	265	195	2.0	51.0	133.0	1.0	12.0	19
1989	246	200	1.5	17.0	130.5	1.5	8.5	20
1990	270	205	3.0	5.5	128.0	1.5	10.0	28

SHEEP AND LAMB PRODUCTION AND INCOME, OHIO, 1988 TO 1990

Year	Production	Marketings	Average price per cwt.		Cash receipts	Value of home consumption	Gross income
			Sheep	Lambs			
	Thousand pounds		Dollars		Thousand Dollars		
1988	17,406	19,401	30.00	65.10	10,471	79	10,550
1989	17,230	15,020	23.90	62.60	8,625	109	8,734
1990	17,380	13,390	20.20	54.50	7,081	94	7,175

WOOL PRODUCTION AND VALUE, OHIO, 1988 TO 1990

Year	Sheep shorn	Weight per fleece	Production	Price per pound	Value
	(000) head	Pounds	(000) pounds	Dollars	(000) dollars
1988	260	7.1	1,845	0.71	1,310
1989	268	6.8	1,822	0.74	1,348
1990	282	6.4	1,816	0.39	708

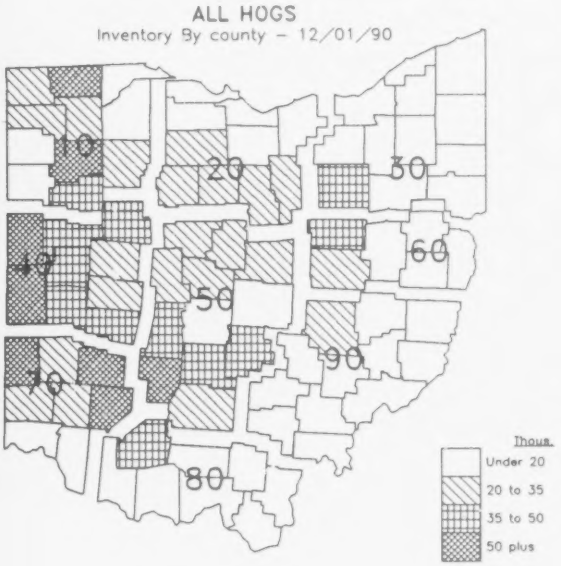
OHIO COUNTY ESTIMATES HOGS AND PIGS AND STOCK SHEEP INVENTORY NUMBERS

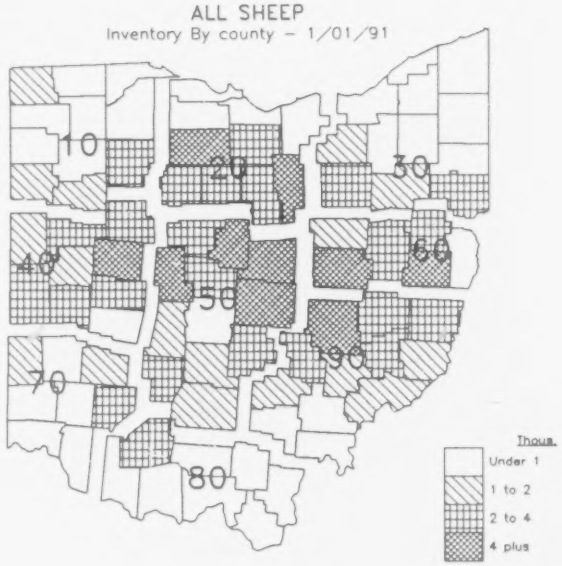
County	Hogs & Pigs		Sheep & Lambs	
	12/1/89	12/1/90	1/1/90	1/1/91
	Number		Number	
Adams	16,500	17,200	1,050	1,150
Allen	39,000	37,000	2,000	2,200
Ashland	25,000	22,000	5,000	5,500
Ashtabula	6,600	6,000	*	*
Athens	2,100	2,000	1,200	1,300
Auglaize	51,000	49,000	2,550	2,750
Belmont	*	*	2,550	3,000
Brown	7,700	8,100	*	1,000
Butler	25,000	24,000	1,200	1,400
Carroll	3,800	3,400	2,450	2,900
Champaign	25,000	25,000	2,900	3,050
Clark	35,000	36,000	1,100	1,150
Clermont	*	*	*	*
Clinton	92,000	89,000	2,500	2,800
Columbiana	8,500	7,200	2,250	2,550
Coshocton	28,000	25,000	9,200	11,000
Crawford	25,000	23,000	3,350	3,700
Cuyahoga	*	*	*	*
Darke	112,000	108,000	2,750	2,900
Defiance	21,500	21,000	*	*
Delaware	23,000	21,000	2,250	2,600
Erie	4,700	4,000	*	*
Fairfield	40,000	39,000	3,500	4,100
Fayette	56,000	55,000	2,750	3,200
Franklin	8,000	7,000	1,100	1,300
Fulton	90,000	80,000	*	*
Gallia	3,500	3,500	*	*
Geauga	3,500	3,000	*	*
Greene	75,000	75,000	2,150	2,400
Guernsey	3,500	3,400	2,300	2,500
Hamilton	*	*	*	*
Hancock	30,500	29,000	3,550	3,850
Hardin	38,000	37,000	4,100	4,400
Harrison	*	*	7,000	8,400
Henry	34,000	31,000	*	*
Highland	41,000	41,000	3,650	3,950
Hocking	2,500	2,500	1,500	1,650
Holmes	53,000	50,000	*	2,000
Huron	17,000	15,000	2,750	2,900
Jackson	4,400	4,500	*	*
Jefferson	2,800	2,400	*	1,000
Knox	32,000	31,500	10,300	12,200
Lake	*	*	*	*
Lawrence	*	*	*	*
Licking	18,000	17,000	7,400	8,800
Logan	25,000	26,000	5,000	5,300
Lorain	5,200	5,000	1,150	1,250
Lucas	12,000	11,000	*	*
Madison	50,000	47,000	1,900	2,200
Mahoning	6,100	6,000	*	*
Marion	31,000	28,500	3,550	4,200
Medina	11,500	11,000	1,750	2,000
Meigs	1,700	1,600	*	*
Mercer	90,000	90,000	1,650	1,750
Miami	37,000	36,000	2,350	2,500
Monroe	2,100	2,100	1,650	1,800
Montgomery	28,000	28,500	*	*
Morgan	5,000	5,200	2,250	2,450
Morrow	22,500	21,000	5,150	6,000
Muskingum	22,500	21,800	17,700	19,600

OHIO COUNTY ESTIMATES HOGS AND PIGS AND STOCK SHEEP INVENTORY NUMBERS

County	Hogs & Pigs 12/1/89	Hogs & Pigs 12/1/90	Sheep & Lambs 1/1/90	Sheep & Lambs 1/1/91
	Number		Number	
Noble	1,900	2,000	3,800	4,100
Ottawa	7,600	7,000	*	*
Paulding	9,000	8,500	*	*
Perry	5,600	6,000	3,500	3,800
Pickaway	40,000	38,000	1,700	2,000
Pike	8,100	8,800	*	*
Portage	4,800	4,000	*	*
Preble	76,000	76,000	1,450	1,600
Putnam	71,000	71,000	1,000	1,150
Richland	25,000	22,000	2,400	2,600
Ross	25,000	24,000	1,700	2,000
Sandusky	20,000	19,000	*	*
Scioto	*	*	*	*
Seneca	31,500	31,000	6,400	6,800
Shelby	44,000	44,000	2,050	2,200
Stark	12,000	11,500	1,450	1,600
Summit	*	*	*	*
Trumbull	3,100	3,000	*	1,050
Tuscarawas	11,000	10,000	2,250	2,700
Union	34,500	34,000	6,300	7,400
Van Wert	18,000	16,500	1,600	1,750
Vinton	2,000	1,800	*	*
Warren	25,200	25,000	1,200	1,350
Washington	6,100	5,600	1,850	2,000
Wayne	51,000	48,000	3,850	4,250
Williams	35,000	33,000	2,050	2,250
Wood	19,000	17,000	1,100	1,200
Wyandot	29,000	28,000	2,750	3,000
Other Counties	10,900	9,900	16,150	12,550
State	2,080,000	2,000,000	205,000	230,000

*Counties with less than 1,000 head not published. Counties with more than a 1,000 head are also unpublished, if necessary, to preserve the confidentially of counties with less than 1,000 head.





COMMERCIAL SLAUGHTER BY MONTHS OHIO 1989 AND 1990 1/

Month	Number of head		Average liveweight		Number of head		Average liveweight	
	1989	1990	1989	1990	1989	1990	1989	1990
	Thousand		Pounds		Thousand		Pounds	
	Cattle				Calves			
January	28.0	20.1	1,119	1,106	12.0	10.2	173	139
February	24.5	18.1	1,129	1,120	9.5	8.8	146	138
March	27.5	18.7	1,121	1,129	9.4	8.0	164	133
April	27.0	20.7	1,124	1,129	5.2	6.0	164	141
May	31.4	22.1	1,135	1,115	7.7	6.1	195	151
June	26.4	17.6	1,115	1,108	9.1	6.1	193	166
July	20.5	16.9	1,102	1,116	11.0	7.9	180	165
August	21.5	19.2	1,117	1,131	10.8	7.4	195	227
September	18.4	18.8	1,113	1,128	8.4	5.8	218	119
October	25.0	24.4	1,117	1,130	10.6	8.5	177	152
November	25.6	20.5	1,113	1,134	9.1	7.0	151	138
December	19.4	15.9	1,126	1,128	9.3	6.2	153	142
Annual	295.2	233.2	1,120	1,123	112.0	88.0	176	151
	Hogs				Sheep			
January	247.2	237.7	250	251	1.0	1.2	110	107
February	233.2	199.9	248	248	1.2	1.3	101	102
March	258.8	217.1	248	249	2.7	1.4	103	104
April	238.9	199.5	249	249	2.5	4.7	102	102
May	262.2	208.4	249	251	2.4	2.0	104	102
June	253.6	194.4	249	252	2.2	1.9	102	102
July	222.7	192.3	247	250	1.8	2.1	104	103
August	254.9	222.1	249	247	2.5	2.8	106	102
September	257.9	208.6	247	245	2.0	2.5	104	104
October	287.4	248.5	248	247	1.9	5.0	105	106
November	270.9	223.8	253	252	1.7	3.6	105	107
December	251.2	223.2	253	252	1.2	2.0	108	104
Annual	3,039.0	2,575.4	249	249	23.2	30.2	104	104

1/ Includes slaughter in federally inspected and in other slaughter plants, but excludes animals slaughtered on farms. Total may not add due to rounding.

MINK: FEMALES BRED AND MINK PELTS PRODUCED, OHIO 1987-1990

Year	Standard	Pastel	Sapphire	Mahogany	Violet-type	Demi-buff 1/	Misc. & Unclassified	Total	Number of ranches
	Thousand females bred								
1987	19.7	1.6	0.7	2.7		4.5	3.8	33.0	
1988	20.6	1.0	0.2	5.2	0.3	3.9	2.2	33.4	
1989	20.8	0.8		6.2			4.1	31.9	
1990	19.5	0.4	0.3	3.0	0.9		0.1	24.2	
	Thousand pelts produced								
1987	54.9	5.6	4.8	17.8	1.4	25.3	10.6	120.4	24
1988	72.2	6.1	0.5	30.6	0.6	1.1	15.3	126.4	21
1989	74.3	5.9	1.0	33.6	1.9	2.7	9.5	128.9	21

1/ This color class includes females bred to produce demi-buff, dark brown, violet, pastel, standard and pearl crosses and others.

CHICKENS: INVENTORY BY CLASSES, OHIO AND UNITED STATES, DECEMBER 1, 1989-1990

	Ohio			United States		
	1989	1990	1990/89	1989	1990	1990/89
	Thousand					
Hens one year old and older	8,400	8,800	105	118,336	118,565	100
Pullets of laying age	8,400	8,900	106	152,728	153,066	100
Pullets not of laying age,						
three months old and older,	2,200	1,200	55	35,768	34,556	97
under three months old	2,800	2,100	75	43,414	39,033	90
Other chickens	20	20	100	5,988	6,555	109
Total 1/	21,820	21,020	96	356,234	351,775	99
All chickens						
value per head ($)	1.25	1.30	104	2.16	2.29	106
total value ($000) 1/	27,275	27,326	100	770,822	805,831	105

1/ Excludes commercial broilers.

CHICKEN DISPOSITION, PRICE AND VALUE, OHIO AND UNITED STATES, 1989 AND 1990 1/

	Lost 2/	Sold	Pounds Sold	Price per pound	Value of sales
		Thousand head	(000) lbs.	Cents	(000) $
Ohio					
1989	2,000	10,000	37,000	14.6	5,402
1990	1,520	10,300	37,080	6.0	2,225
United States					
1989	35,975	199,032	926,525	14.9	138,421
1990	34,724	208,085	981,619	9.6	94,540

1/ Data cover both farm and commercial operations but excludes commercial broilers. 2/ Includes death and other losses during the 12 month period, Dec. 1 previous year through November 30.

AVERAGE NUMBER OF LAYERS ON HAND AND EGGS PRODUCED BY MONTHS, OHIO 1989 AND 1990

Month	Layers		Eggs per 100 layers		Eggs produced	
	1989	1990	1989	1990	1989	1990
	Thousands		Number		Millions	
December 1/	17,406	16,827	2,252	2,258	392	380
January	17,190	16,977	2,234	2,209	384	375
February	16,881	17,146	2,002	1,995	338	342
March	16,741	17,246	2,234	2,215	374	382
April	16,623	17,488	2,136	2,167	355	379
May	16,453	17,621	2,158	2,225	355	392
June	16,495	17,676	2,073	2,133	342	377
July	16,711	18,078	2,196	2,246	367	406
August	16,813	18,416	2,171	2,264	365	417
September	16,871	18,378	2,086	2,198	352	404
October	16,928	18,268	2,221	2,277	376	416
November	16,856	17,971	2,177	2,209	367	397
Total 2/	16,832	17,676	259	264	4,367	4,667

1/ December preceding year. 2/ For layers columns this is average for the year. For eggs per 100 layers columns this is total egg production divided by average number of layers on hand.

EGG PRODUCTION, PRICE AND VALUE, OHIO AND UNITED STATES, 1989 AND 1990

	Ohio		United States	
	1989	1990	1989	1990
Eggs produced (million eggs)	4,367	4,667	67,236	67,832
Price per dozen (cents)	50.4	59.1	68.9	71.6
Value of production (000 dollars)	183,414	229,850	3,861,469	4,044,696

BROILER PRODUCTION, PRICE AND VALUE, OHIO AND UNITED STATES, 1989 AND 1990 1/

	Ohio		United States 2/	
	1989	1990	1989	1990
Number produced (000 head)	16,000	20,500	5,033,959	5,327,000
Pounds produced (000 pounds) 3/	72,000	96,350	21,938,779	23,372,790
Price per pound (cents) 4/	29.0	27.0	36.6	32.6
Value of production (000 dollars)	20,880	26,015	8,027,023	7,624,167

1/ Broiler production including other meat-type breeds. 2/ Excludes States producing less than 500,000 birds. 3/ Includes home consumption. 4/ Liveweight equivalent price.

TURKEY PRODUCTION, PRICE AND VALUE, OHIO AND UNITED STATES, 1989 AND 1990

	Ohio		United States	
	1989	1990	1989	1990
Number produced (000 head) 1/	4,100	4,750	261,280	283,000
Pounds produced (000 pounds) 2/	110,290	134,900	5,465,453	6,041,836
Price per pound (cents) 3/	41.0	39.0	40.9	39.4
Value of production (000 dollars)	45,219	52,611	2,234,422	2,383,179

1/ Based on turkeys hatched September 1, previous year through August 31, current year. Excludes young turkeys lost. 2/ Includes home consumption. 3/ Liveweight equivalent price.

NUMBER OF LAYERS BY DISTRICT, OHIO, DECEMBER 1, 1986 TO 1990

District	Hens and pullets of laying age				
	1986	1987	1988	1989	1990
			Thousand		
10	1,400	1,650	1,410	1,300	1,250
20	250	260	220	190	110
30	1,050	870	750	700	780
40	6,400	7,750	7,900	8,080	9,090
50	5,760	5,530	5,770	5,400	5,320
60	360	350	330	240	430
70	160	180	120	100	100
80	280	820	800	590	460
90	240	190	150	200	160
State	15,900	17,600	17,450	16,800	17,700

AVERAGE PRICES OF SELECTED COMMODITIES, OHIO, 1989 AND 1990

Commodity 1/	Unit	1989	1990	Commodity 1/	Unit	1989	1990
		Dollars				Dollars	
Corn for grain	Bu.	2.49	2.35	Cattle	Cwt.	66.90	71.70
Soybeans	Bu.	5.73	5.80	Cows	Cwt.	47.30	50.20
Wheat	Bu.	3.74	2.70	Steers & heifers	Cwt.	71.30	75.60
Oats	Bu.	1.46	1.20	Calves	Cwt.	87.00	87.90
All hay	Ton	120.00	102.00	Sheep	Cwt.	23.90	20.20
Rye	Bu.	3.50	3.50	Lambs	Cwt.	62.60	54.50
All tobacco	Lb.	1.673	1.755	Wool	Lb.	0.74	0.39
All potatoes	Cwt.	7.30	6.40	Farm chickens	Lb.	0.146	0.060
Sugarbeets	Ton	40.80	2/	Comm'l broilers 3/	Lb.	0.290	0.270
Apples	Lb.	0.179	0.178	Turkeys	Lb.	0.410	0.390
Peaches	Lb.	0.340	0.380	All eggs	Doz.	0.504	0.591
Grapes	Ton	266.00	304.00	All wholesale milk	Cwt.	13.40	13.90
Hogs	Cwt.	42.40	52.40	Fluid grade	Cwt.	13.50	14.00
Sows	Cwt.	33.70	46.40	Mfg. grade	Cwt.	12.10	12.30
Barrows & gilts	Cwt.	42.90	53.20	Milk cows 4/	Head	1050.00	1120.00

1/ Crops are marketing year average price; chickens and hogs, December-November season average price; other items, annual average price. 2/ Not available. 3/ Liveweight equivalent price. 4/ For milk herd replacement.

AVERAGE PRICES PAID BY FARMERS FOR FEED, FEED-PRICE RATIOS, CORN BELT 1/ 1989 AND 1990

Item	Jan 1989	Apr 1989	Jul 1989	Oct 1989	Jan 1990	Apr 1990	Jul 1990	Oct 1990	Jan 1991
					Dollars per ton				
Hog feed 14-18% protein	217	222	218	208	207	209	214	209	208
Hog concentrate 38-42% protein	357	339	343	322	305	292	300	300	290
Beef cattle concentrate 32-36% protein	310	291	287	285	279	260	272	274	266
Dairy feed 16% protein	208	202	188	189	196	187	192	187	191
Dairy feed 32% protein	340	319	327	309	295	279	288	291	285
Laying feed	235	232	216	224	219	213	229	216	214
Turkey grower	269	253	242	228	230	230	239	247	254
					Ratio				
Egg-feed ratio 2/	3.9	5.3	4.5	4.9	6.4	6.1	4.1	5.2	6.4
Hog-corn ratio 3/	15.4	13.9	17.8	19.9	19.1	19.7	21.3	24.3	20.4
Milk-feed ratio 4	1.32	1.24	1.33	1.52	1.63	1.44	1.46	1.45	1.21

1/ Ohio, Illinois, Indiana, Iowa, Missouri. 2/ Pounds of feed equal in value to one dozen eggs. 3/ Bushels of corn equal in value to 100 pounds of hogs, liveweight. Ohio prices used for this ratio. 4/ Pounds of 16% dairy feed equal in value to 1 pound of whole milk.

AVERAGE PRICES PAID BY FARMERS FOR FUELS, CORN BELT 1/ 1989 AND 1990

Item	Jan. 1989	Apr. 1989	Jul. 1989	Oct. 1989	Jan. 1990	Apr. 1990	Jul. 1990	Oct. 1990	Jan. 1991
					Dollars per gallon				
Unleaded gas, retail	0.89	1.07	1.10	1.03	1.06	1.05	1.04	1.36	1.18
Leaded gasoline, bulk	0.92	1.10	1.12	1.07	1.11	1.11	1.09	1.43	1.26
Diesel, bulk	0.73	0.81	0.75	0.81	1.05	0.82	0.74	1.23	1.03
LP gas, bulk	0.53	0.54	0.53	0.51	1.08	0.60	0.60	0.90	0.81

1/ Ohio, Indiana, Illinois, Iowa. Missouri.

PRICES RECEIVED BY FARMERS FOR SELECTED COMMODITIES BY MONTHS, OHIO, 1989 AND 1990 1/

Commodity and year	Unit	Jan.	Feb.	Mar.	Apr.	May	Jun.
				Dollars			
Corn							
1989	Bu.	2.64	2.64	2.65	2.64	2.65	2.63
1990		2.40	2.40	2.49	2.68	2.79	2.91
Soybeans							
1989	Bu.	7.79	7.47	7.39	7.42	7.30	7.21
1990		5.69	5.61	5.75	5.92	6.07	5.99
Wheat							
1989	Bu.	4.18	4.16	4.11	3.94	3.93	3.80
1990		3.88	3.74	3.71	3.63	3.48	3.16
Oats							
1989	Bu.	2.64	2.48	2.47	2.37	2.18	1.90
1990		1.49	1.45	1.48	1.48	1.48	1.51
All hay							
1989	Ton	125.00	120.00	125.00	125.00	134.00	126.00
1990		125.00	129.00	129.00	133.00	136.00	113.00
Alfalfa hay							
1989	Ton	130.00	125.00	130.00	130.00	140.00	135.00
1990		135.00	140.00	140.00	145.00	145.00	125.00
Other hay							
1989	Ton	75.00	70.00	75.00	75.00	80.00	75.00
1990		85.00	85.00	85.00	85.00	85.00	75.00
All potatoes							
1989	Cwt.	7.95	9.25	8.45	8.45	-	-
1990		8.35	9.45	9.45	-	-	-
Hogs							
1989	Cwt.	40.70	40.20	39.00	36.70	41.00	45.20
1990		45.80	46.90	50.60	52.80	59.00	58.20
Sows							
1989	Cwt.	32.00	33.40	33.70	29.90	32.50	33.00
1990		41.50	42.50	46.60	49.60	52.60	51.20
Barrows & gilts							
1989	Cwt.	41.30	40.60	39.30	37.10	41.60	46.00
1990		46.50	47.60	51.10	53.30	60.30	59.20
All beef cattle							
1989	Cwt.	63.90	66.10	68.90	69.70	69.20	66.80
1990		67.70	68.30	69.60	72.00	74.40	73.00
Cows							
1989	Cwt.	45.20	48.30	46.60	46.20	47.00	48.00
1990		49.90	50.60	50.50	50.20	52.40	53.00
Steers & heifers							
1989	Cwt.	70.00	71.20	74.60	73.10	72.40	70.10
1990		72.90	73.80	73.30	76.10	77.70	76.10
Calves							
1989	Cwt.	88.90	94.40	93.50	89.90	87.80	99.80
1990		85.00	91.50	92.00	94.40	99.40	101.00
Sheep							
1989	Cwt.	32.00	33.60	27.10	20.50	19.10	24.70
1990		25.80	27.80	23.60	18.30	18.20	18.70
Lambs							
1989	Cwt.	64.60	66.00	75.30	78.80	71.10	64.00
1990		55.00	58.70	66.00	67.80	62.20	52.50
Wool							
1989	Cwt.	0.71	0.78	0.77	0.75	0.76	0.73
1990		0.42	0.43	0.38	0.33	0.36	0.31
Eggs							
1989	Doz.	0.46	0.47	0.47	0.61	0.45	0.45
1990		0.70	0.64	0.69	0.65	0.59	0.45
All milk							
1989	Cwt.	13.70	13.60	12.90	12.50	12.30	12.50
1990		16.00	15.30	14.30	13.50	13.50	13.80
Fluid market milk							
1989	Cwt.	13.80	13.70	13.00	12.60	12.40	12.50
1990		16.20	15.50	14.50	13.60	13.60	13.90
Mfg. grade milk							
1989	Cwt.	11.90	11.70	11.60	11.30	11.40	11.80
1990		13.40	12.80	12.30	12.40	12.50	12.60
Milk cows 2/							
1989	Head	1,000.00			1,050.00		
1990		1,100.00			1,050.00		

1/ 1990 data is preliminary. 2/ For replacement dairy stock.

PRICES RECEIVED BY FARMERS FOR SELECTED COMMODITIES BY MONTHS, OHIO, 1989 AND 1990 1/

Commodity and year	Unit	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
				Dollars			
Corn							
1989	Bu.	2.56	2.50	2.44	2.34	2.34	2.39
1990		2.80	2.64	2.41	2.24	2.16	2.28
Soybeans							
1989	Bu.	7.01	6.18	5.98	5.55	5.72	5.75
1990		6.14	6.15	6.07	5.89	5.74	5.78
Wheat							
1989	Bu.	3.72	3.70	3.75	3.85	3.90	3.95
1990		2.86	2.63	2.46	2.44	2.28	2.34
Oats							
1989	Bu.	1.49	1.43	1.38	1.31	1.53	1.58
1990		1.22	1.22	1.31	1.07	1.20	1.19
All hay							
1989	Ton	111.00	102.00	104.00	109.00	116.00	121.00
1990		100.00	91.00	92.00	100.00	103.00	105.00
Alfalfa hay							
1989	Ton	125.00	115.00	115.00	120.00	125.00	130.00
1990		115.00	105.00	105.00	110.00	115.00	115.00
Other hay							
1989	Ton	70.00	70.00	70.00	75.00	80.00	85.00
1990		65.00	65.00	60.00	70.00	65.00	65.00
All potatoes							
1989	Cwt.	-	8.50	6.95	6.25	7.70	8.80
1990		-	7.05	6.00	6.15	6.30	6.85
Hogs							
1989	Cwt.	45.60	45.40	43.30	46.60	44.50	47.70
1990		59.60	54.10	52.70	54.50	48.00	45.60
Sows							
1989	Cwt.	33.40	35.20	35.60	38.80	36.30	38.40
1990		48.10	48.30	45.40	47.20	43.70	39.60
Barrows & gilt							
1989	Cwt.	46.40	46.20	43.80	47.20	44.90	48.80
1990		61.10	55.10	53.50	55.70	48.60	46.40
All beef cattle							
1989	Cwt.	65.60	65.40	65.70	67.00	66.50	66.90
1990		70.60	73.50	71.40	72.30	72.10	72.60
Cows							
1989	Cwt.	47.80	47.70	48.30	47.00	46.70	49.80
1990		51.70	50.60	51.00	49.40	46.90	48.40
Steers & heifers							
1989	Cwt.	70.00	69.80	69.90	70.60	71.20	72.20
1990		73.60	77.30	74.40	76.10	76.40	77.50
Calves							
1989	Cwt.	89.90	89.20	88.00	82.30	80.20	81.20
1990		99.00	97.00	85.80	82.00	80.00	85.10
Sheep							
1989	Cwt.	22.40	23.20	20.40	20.80	26.00	25.50
1990		20.30	16.80	19.60	18.40	16.80	15.70
Lambs							
1989	Cwt.	60.80	58.70	57.90	57.70	57.70	56.10
1990		50.90	46.70	49.10	50.10	47.70	44.80
Wool							
1989	Cwt.	0.67	0.64	0.68	0.55	0.49	0.78
1990		0.29	0.28	0.24	0.27	0.23	0.47
Eggs							
1989	Cwt.	0.49	0.51	0.51	0.55	0.58	0.67
1990		0.47	0.45	0.53	0.56	0.60	0.63
All milk							
1989	Cwt.	12.50	12.90	13.60	14.40	15.10	16.00
1990		14.00	14.30	13.50	13.60	13.20	11.60
Fluid market milk							
1989	Cwt.	12.60	13.00	13.70	14.50	15.20	16.10
1990		14.20	14.50	14.50	13.60	13.80	11.60
Mfg. grade milk							
1989	Cwt.	11.10	11.60	12.40	13.50	13.80	14.00
1990		12.40	12.30	12.30	11.80	11.70	11.10
Milk cows 2/							
1989	Head	1,070.00			1,080.00		
1990		1,140.00			1,200.00		

NONREAL ESTATE FARM DEBT OUTSTANDING OHIO DECEMBER 1, 1985 TO 1989 1/

Year	All Operating Banks	Farm Credit System 2/	Farmers Home Admin.	Debt owed to individuals and others	Total	CCC Crop Loan	Total Including Crop Loans
				Million Dollars			
1985	554	309	328	560	1,751	468	2,219
1986	515	275	318	328	1,436	482	1,918
1987	499	236	299	278	1,312	325	1,637
1988	545	231	275	299	1,349	118	1,468
1989	541	267	233	312	1,352	88	1,441

Source: Economic Indicators of the Farming Sector, State Financial Summary, 1989. 1/ Numbers may not add because of rounding. Data includes operator households. 2/ Prior to 1989, Farm Credit loans were reported separately for production credit association and Federal intermediate credit bank loans made through other financial institutions.

REAL ESTATE FARM DEBT OUTSTANDING OHIO DECEMBER 1, 1985 TO 1989 1/

Year	Farm Credit System 2/	Farmers Home Admin.	Life Insurance Companies	All operating banks	Individual and others	CCC storage and drying loans	Total
				Million Dollars			
1985	987	188	211	441	611	9	2,448
1986	795	196	177	498	544	4	2,213
1987	648	194	147	527	466	1	1,983
1988	638	191	134	561	409	0	1,933
1989	628	174	127	559	386	0	1,874

Source: Economic Indicators of the Farming Sector, State Financial Summary, 1989. 1/ Numbers may not add because of rounding. Data includes operator households. 2/ Federal Land Bank debt prior to 1988.

INDEXES OF PRICES, UNITED STATES, 1989 AND 1990

Month	All farm products		Lvstk. & lvstk. products		All crops		Consumer (CPI)		Producer (wholesale)	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
	1977=100						1982-84=100		1982=100	
January	150	154	158	172	142	135	121	127	111	118
February	149	151	158	169	139	133	121	128	112	117
March	150	150	161	171	138	129	124	129	112	117
April	148	151	154	170	142	131	123	129	113	117
May	149	154	156	173	142	134	124	129	114	118
June	148	152	157	173	138	130	124	130	114	118
July	147	152	157	173	137	130	124	130	114	118
August	145	150	161	174	128	125	125	132	113	119
September	144	148	160	173	126	123	125	133	114	120
October	145	146	162	171	128	120	126	134	115	122
November	147	145	165	166	128	124	126	134	115	123
December	149	143	170	164	127	121	126	134	115	122

VALUE OF AGRICULTURAL EXPORTS, OHIO AND UNITED STATES, FISCAL YEARS 1987 TO 1990 1/

Year ended Sept 30	Wheat and products	Feed Grains and products 2/	Soybeans and products 3/	Tobacco unmfgd.	Fruits and preps.	Vegetables and preps.	Feeds and fodder	Seeds
			Million dollars					
			Ohio					
1987	69.7	247.6	434.7	9.5	2.5	26.7	23.0	7.4
1988	75.1	302.3	519.2	9.3	5.0	27.9	30.8	8.3
1989	151.6	399.6	375.5	11.2	5.3	32.9	37.3	10.0
1990	123.1	389.4	343.6	12.3	10.2	38.6	28.1	11.5
			United States					
1987	3115.6	4662.3	5752.9	1203.1	1466.2	1175.8	671.9	371.1
1988	4675.1	6228.5	6972.2	1297.1	1714.1	1280.5	874.3	414.7
1989	6278.4	8345.8	5822.0	1273.9	1800.2	1542.3	1062.4	506.6
1990	4430.3	9070.9	5271.8	1373.5	2188.1	2078.7	1047.5	576.4

Year	Live animals and meat excl poultry	Hides and skins 4/	Poultry and products	Fats oils and greases	Dairy products	Other 5/	Total
			Million dollars				
			Ohio				
1987	24.2	21.5	12.5	6.0	13.4	25.9	924.7
1988	34.0	24.4	14.4	7.7	12.8	30.6	1101.9
1989	39.9	20.2	16.0	6.5	11.3	44.8	1162.1
1990	33.6	15.2	15.2	4.0	7.6	52.5	1085
			United States				
1987	1630.2	1665.6	594.3	416.8	490.6	4659.7	27876.2
1988	2248.6	1836.8	647.4	544.6	535.5	6109.3	35378.6
1989	2830.0	1713.0	724.5	530.8	474.7	6732.4	39637.1
1990	2817.3	1795.6	853.5	458.8	347.7	7919.6	40181.8

1/ Export shares for Ohio were derived from the State's contribution to national production. They do not show actual State exports, but instead reflect the prorated stake in the national export total. 2/ Includes corn, barley, oats, grain sorghum and other coarse grain products. 3/ Soybeans, soybean meal and soybean oil. 4/ Distribution of furskins to the State prorated level includes mink pelts. 5/ Other includes rice, sunflower seed and oil, peanuts and products, cotton and linters, cottonseed and products and tree nuts which were listed separately for the United States but which are not estimated for Ohio. Other also includes other products estimated for Ohio and the United States but not listed in the table.

VALUE OF U.S. FOREIGN TRADE AND TRADE BALANCE FISCAL YEAR OCTOBER-SEPTEMBER 1987-1990

	Agricultural Trade					Total Trade		
Year	Ag. Exports	Ag. share of total	Ag. Imports	Ag. share of total	Ag. Trade balance	Total Exports 1/	Total Imports 1/	Total Trade balance
	Million $	Percent	Million $	Percent		Million $		
1986/87	27,876	230,787	12	20,650	388,024	5	7,226	0
1987/88	35,379	293,972	12	21,014	430,152	5	14,365	0
1988/89	39,637	340,859	12	21,477	441,074	5	18,160	0
1989/90	40,182	366,110	11	22,514	458,147	5	17,668	0

1/ Domestic exports. 2/ Imports for consumption, customs value basis. Source: Foreign Agricultural Trade of the U.S. November/December 1990. Fiscal year 1990.

FARM INCOME STATEMENT OF OHIO, 1987-89 AND U.S. 1988,1989

Gross Farm Income 1/	Ohio			United States	
	1987	1988	1989	1988	1989
			Million Dollars		
Gross farm income 2/	4,209.5	4,078.0	4,571.5	173,822.5	189,117.7
Cash income	4,102.0	4,008.5	4,158.0	170,385.1	177,456.8
Farm marketings	3,605.4	3,563.5	3,812.1	150,192.4	159,173.3
Crops	1,982.1	1,979.7	2,114.4	71,371.6	74,449.1
Livestock and products	1,623.3	1,583.9	1,697.7	78,820.8	83,724.2
Government payments	431.9	381.9	274.0	14,479.8	10,886.7
Other farm income	64.7	63.1	71.9	5,715.9	7,396.8
Machine hire/customwork	26.0	23.2	27.3	681.6	803.7
Other farm-related income 3/	38.7	39.9	44.6	5,034.3	6,593.1
Noncash income	287.8	291.2	281.5	7,512.7	7,216.9
Value of home consumption	31.3	31.4	27.4	794.7	646.9
Rental value of dwellings 4/	256.5	259.8	254.1	6,718.0	6,290.2
Operator and other dwellings	250.5	253.7	248.6	6,408.7	6,290.2
Hired laborer dwellings	6.1	6.4	5.5	309.3	279.8
Value of inventory adjustment	-180.4	-221.7	132.0	-4,078.4	4,444.0
Total production expenses 2/	3,394.6	3,429.3	3,753.2	131,776.5	142,554.7
Intermediate product expenses	1,855.8	1,870.2	2,082.4	76,866.7	84,738.2
Farm origin	617.0	635.1	683.0	36,700.1	84,738.2
Feed purchased	401.5	446.6	472.7	20,619.9	22,721.6
Lvstck and poultry prchsed	79.3	51.8	54.2	12,812.1	12,983.0
Seed purchased	136.3	136.6	156.1	3,268.1	3,733.2
Manufactured inputs	606.4	619.0	702.2	18,730.3	20,696.9
Fertilizer and lime	267.6	281.0	313.4	6,775.3	7,554.4
Pesticides	147.6	145.3	187.1	4,442.7	5,721.5
Fuel and oil	139.2	138.9	151.1	4,921.4	5,321.2
Electricity	52.0	53.8	50.6	2,230.9	2,099.9
Other	632.4	616.1	697.3	21,798.3	24,603.6
Repair and maintenance	264.5	269.2	310.5	6,889.1	7,794.2
Other miscellaneous 5/	367.9	346.9	386.7	14,909.2	16,809.4
Interest	363.2	355.8	356.8	15,172.2	15,122.9
Real estate	213.0	206.5	202.7	7,885.0	7,643.3
Nonreal estate	150.2	149.3	154.1	7,287.2	7,479.6
Contract and hired labor expenses	198.1	205.1	217.1	11,202.0	11,886.7
Cash labor expenses 6/	188.2	195.5	208.3	10,713.6	11,439.8
Perquisites	10.0	9.6	8.8	488.4	446.9
Net rent to nonoperator lndlrds 7/	196.2	188.5	237.7	7,013.9	8,180.7
Capital consumption	632.7	663.4	695.2	16,716.3	17,309.8
Property taxes	148.6	146.2	164.0	4,803.5	5,316.4
NET FARM INCOME	814.8	648.7	818.3	42,046.0	46,563.0
Cash income 8/	4,102.0	4,008.5	4,158.0	170,388.1	177,456.8
Cash expenses 8/	2,659.3	2,660.1	2,972.6	111,950.8	122,776.1
Intermediate product expenses	1,815.3	1,827.9	2,047.8	75,753.7	83,825.2
Interest	336.1	328.6	336.8	14,328.2	14,544.9
Cash labor expenses 6/	188.2	195.5	208.3	10,713.6	11,439.8
Net rent to nonoperator lndlrds 7/	196.2	188.5	237.7	7,013.9	8,180.7
Property taxes	123.5	119.6	142.0	4,141.5	4,785.4

FARM INCOME STATEMENT OF OHIO, 1987-89 AND U.S. 1988,1989

Gross Farm Income 1/	Ohio 1987	Ohio 1988	Ohio 1989	United States 1988	United States 1989
			Million Dollars		
NET CASH INCOME	1,442.7	1,348.4	1,185.4	58,437.3	54,680.7
Cash income 8/	4,102.0	4,008.5	4,158.0	170,388.1	177,456.8
Cash expenses 8/	2,659.3	2,660.1	2,972.6	111,950.8	122,766.1
Capital consumption 8/	554.3	583.6	614.7	14,613.3	15,188.8
NET CASH INCOME 9/	888.4	764.8	570.7	43,824	39,492.0
Gross receipts of farms 10/	3,959.0	3,824.3	4,322.9	167,413.8	182,827.6
Nonfactor payments 8/	2,493.1	2,531.1	2,804.5	94,508.4	103,799.4
Intermediate product expenses	1,815.3	1,827.9	2,047.8	75,753.7	83,825.2
Capital consumption	554.3	583.6	614.7	14,613.3	15,188.8
Property taxes	123.5	119.6	142.0	4,141.5	4,785.4
Factor payments 8/	1,465.9	1,293.2	1,518.4	72,905.4	79,028.2
Interest	336.1	328.6	336.8	14,328.2	14,544.9
Contract and hired labor expenses	198.1	205.1	217.1	11,202.0	11,886.7
Net rent to nonoperator landlords 7/	196.2	188.5	237.7	7,013.9	8,180.7
RETURNS TO OPERATORS 11/	735.4	571.0	726.0	726.8	40,361.3
Off-farm income 12/	2,096.9	2,064.2	2,056.8	57,705.7	57,497.5
Number of farms	84,000	85,000	86,000	2,197,140	2,170,520

1/ Contains revised data for many components for 1983 forward. The majority of the revisions are due to incorporation of newly released 1987 Census of Agriculture data. 2/ Includes operator dwellings. New computational procedures and data sources are used in deriving the gross rental income and expenses related to farm dwellings. 3/Includes forest product sales, custom feed services, and other farm business-related income. 4/ New methodology and data sources are used to compute gross rental value of farm dwellings for 1984 forward. 5/ Includes machine hire and customwork expenses; marketing, storage, and transportation expenses; and miscellaneous expenses. Definition and data sources for 1978 and later are not directly compatible with earlier years. 6/ Includes contract labor expenses, hired labor wages, and Social Security payments. 7/ Uses different data sources for the periods before 1979, 1979-83, and 1984 and later, potentially creating inconsistencies in estimates among these periods. 8/ Excludes operator dwellings. 9/ Cash income less cash expenses and capital consumption. 10/ Gross farm income less rental value of operator dwellings. 11/ Gross receipts of farm business less nonfactor payments, interest, contract and hired labor expenses, and net rent to nonoperator landlords. 12/ Includes off-farm cash income for the principal farm operator and members of that farm operator's family.

FARM ASSETS, DEBTS AND RATIOS, OHIO 1986-1989, U.S. 1988,1989

	Ohio 12/31/86	Ohio 12/31/87	Ohio 12/31/88	Ohio 12/31/89	United States 12/31/88	United States 12/31/89
				Million Dollars		
Farm Assets:						
Real Estate	17,334.2	18,704.4	19,826.7	19,750.6	665,797.8	688,120.9
Livestock & Poultry	1,044.3	1,204.0	1,293.9	1,318.2	65,537.9	69,652.8
Machinery & Motor Vehicles	3,273.8	3,136.8	3,240.1	3,451.7	85,687.2	88,172.6
Crops	566.7	659.0	808.9	866.8	23,048.5	23,479.1
Purchased Inputs	59.1	100.6	99.9	71.9	3,446.5	2,792.6
Household equipment & furnishings	1,110.1	1,272.2	1,430.3	1,599.2	36,982.0	41,350.0
Financial Assets	1,886.5	2,040.3	2,130.2	2,188.1	58,014.8	58,663.8
Total Farm Assets	25,274.7	27,117.3	28,830.0	29,246.6	938,514.7	972,231.8
Farm Debt:						
Real Estate Debt	2,486.6	2,232.1	2,166.4	2,101.5	82,952.5	80,476.5
Non-real Estate Debt	1,436.2	1,311.8	1,348.9	1,351.9	65,588.3	65,789.3
Total Farm Debt 1/	3,922.7	3,543.9	3,515.4	3,453.3	148,540.9	145,965.8
Equity	21,352.0	23,573.3	25,314.6	25,793.2	789,973.8	826,266.0
Debt/Asset Ratio	15.5	13.1	12.2	11.8	15.8	15.0
Debt/Equity Ratio	18.4	15.0	13.9	13.4	18.8	17.7
Net Farm Income/Debt Ratio 2/ 3/	16.7	23.0	18.5	23.7	28.3	31.9

1/ Excludes CCC loans. 2/Net farm income after inventory adjustment. 3/ Calculated using end of year debt.

OHIO WEATHER STATIONS

MONTHLY PRECIPITATION AND DEVIATIONS FOR 1990 1/

Month	Month	Dev	Accum	Accum Dev	Month	Dev	Accum	Accum Dev	Month	Dev	Accum	Accum Dev
	HOYTVILLE				FREMONT				WILLARD			
APR	2.09	-.85	2.09	-.85	2.49	-.45	2.49	-.45	3.15	.21	3.15	.21
MAY	4.62	1.58	6.71	.73	4.07	1.03	6.56	.58	6.58	3.54	9.73	3.75
JUN	3.07	.13	9.78	.86	4.65	1.71	11.21	2.29	3.37	.43	13.10	4.18
JUL	6.51	3.47	16.29	4.33	3.66	.62	14.87	2.91	4.02	.98	17.12	5.16
AUG	4.01	1.46	20.30	5.79	2.74	-.30	17.61	2.61	3.02	-.02	20.14	5.14
SEP	4.50	2.15	24.80	7.94	4.35	2.19	21.96	4.80	3.47	.72	23.61	5.86
OCT	3.71	2.17	28.51	10.11	3.75	2.64	25.71	7.44	4.20	2.17	27.81	8.04
NOV	2.11	.15	30.62	10.26	1.97	.01	27.68	7.45	1.91	-.05	29.72	7.99
	GRAPE BRANCH				CANFIELD				CELINA			
APR	3.57	.63	3.57	.63	3.53	.59	3.53	.59	2.64	-.30	2.64	-.30
MAY	4.93	2.12	8.50	2.75	4.56	1.52	8.09	2.11	6.21	3.17	8.85	2.87
JUN	2.18	-.76	10.68	1.99	4.03	1.09	12.12	3.20	3.19	-.50	12.04	2.37
JUL	2.43	-.61	13.11	1.38	8.63	4.64	20.75	7.84	10.11	7.07	22.15	9.44
AUG	7.06	4.02	20.17	5.40	3.51	.80	24.26	8.64	4.85	2.82	27.00	12.26
SEP	9.34	6.40	29.51	11.80	6.30	3.46	30.56	12.10	3.06	.38	30.06	12.64
OCT	4.26	1.84	33.77	13.64	3.59	1.56	34.15	13.66	2.67	.64	32.73	13.29
NOV	2.46	-.48	36.23	13.16	1.71	-.25	35.86	13.41	2.23	.27	34.96	13.55
	DELAWARE				WOOSTER				S CHARLESTON			
APR	2.65	-.29	2.65	-.29	2.65	-.29	2.65	-.29	2.62	-.39	2.62	-.39
MAY	5.29	2.25	7.94	1.96	4.94	1.90	7.59	1.61	6.76	3.59	9.38	3.20
JUN	3.78	.84	11.72	2.80	2.45	-.49	10.04	1.12	3.10	.13	12.48	3.33
JUL	8.48	5.44	20.20	8.24	6.66	2.74	16.70	3.86	8.43	4.44	20.91	7.77
AUG	3.15	.11	23.35	8.35	4.49	1.45	21.19	5.31	1.60	-1.44	22.51	6.33
SEP	2.10	-.15	25.45	8.20	4.49	1.78	25.68	7.09	4.35	1.87	26.86	8.20
OCT	5.29	3.75	30.74	11.95	4.61	3.17	30.29	10.26	4.85	3.25	31.71	11.45
NOV	1.70	-.26	32.44	11.69	1.47	-.49	31.76	9.77	1.82	-.14	33.53	11.31
	CIRCLEVILLE				CALDWELL				OXFORD			
APR	3.29	.35	3.29	.35	1.99	-.95	1.99	-.95	3.26	.32	3.26	.32
MAY	11.11	8.07	14.40	8.42	6.35	3.31	8.34	2.36	9.20	6.16	12.46	6.48
JUN	3.34	.40	17.74	8.82	2.73	-1.19	11.07	1.17	3.00	-.14	15.46	6.34
JUL	7.01	3.12	24.75	11.94	4.99	.94	16.06	2.11	5.62	1.67	21.08	8.01
AUG	3.03	-.01	27.78	11.93	2.93	-.31	18.99	1.80	6.40	3.36	27.48	11.37
SEP	3.10	.29	30.88	12.22	3.72	1.20	22.71	3.00	3.08	.30	30.56	11.67
OCT	5.99	3.96	36.87	16.18	3.45	1.42	26.16	4.43	6.37	4.34	36.93	16.01
NOV	1.77	-.19	38.64	15.99	.06	-1.90	26.22	2.53	1.89	-.07	38.82	15.94
	RIPLEY				WILMINGTON				JACKSON			
APR	4.19	1.12	4.19	1.12	3.48	-.44	3.48	-.44	3.12	-.21	3.12	-.21
MAY	9.82	6.78	14.01	7.90	10.92	6.87	14.40	6.43	7.45	4.18	10.57	3.97
JUN	4.85	1.91	18.86	9.81	4.06	.14	18.46	6.56	1.75	-1.22	12.32	2.74
JUL	2.65	-1.40	21.51	8.41	4.30	.61	22.76	7.17	4.67	.62	16.99	3.36
AUG	5.66	2.03	27.17	10.44	4.16	1.12	26.92	8.29	4.40	1.03	21.39	4.40
SEP	3.13	.25	30.30	10.69	3.73	.82	30.65	9.11	2.30	-.64	23.69	3.76
OCT	5.04	3.01	35.34	13.71	5.11	3.08	35.76	12.20	4.19	2.16	27.88	5.92
NOV	2.45	-.30	37.79	13.41	2.20	-.74	37.96	11.46	1.87	-.09	29.75	5.83

1/ Deviations from normal rainfall are derived using the average rainfall over a 30-year period. These normals are updated each decade, and weather stations without deviations had less than 30 years of data during the period 1951-80.

DEGREE DAY (BASE 50-MOD) ACCUMULATIONS AND DEVIATIONS FROM NORMAL, 1990 1/

Month	Month	Dev	Accum	Accum Dev	Month	Dev	Accum	Accum Dev	Month	Dev	Accum	Accum Dev
	HOYTVILLE				FREMONT				WILLARD			
APR	201	29	201	29	189	74	189	74	177	20	177	20
MAY	305	-57	506	-28	287	-29	476	45	274	-53	451	-33
JUN	574	-32	1080	-60	558	-32	1034	13	553	11	1004	-22
JUL	672	-64	1752	-124	668	-69	1702	-56	655	-16	1659	-38
AUG	619	-55	2371	-179	609	-85	2311	-141	609	-9	2268	-47
SEP	480	13	2851	-166	454	-16	2765	-157	453	30	2721	-17
OCT	243	3	3094	-163	230	25	2995	-132	222	2	2943	-15
NOV	130	101	3224	-62	129	107	3124	-25	125	101	3068	86
	GRAPE BRANCH				CANFIELD				CELINA			
APR	186	87	186	87	226	60	226	60	204	16	204	16
MAY	254	-23	440	64	325	-9	551	51	300	-73	504	-57
JUN	481	-38	921	26	537	30	1088	81	588	-14	1092	-71
JUL	606	-61	1527	-35	634	-2	1722	79	697	-38	1789	-109
AUG	575	-67	2102	-102	618	20	2340	99	633	-43	2422	-152
SEP	408	-44	2510	-146	418	4	2758	103	494	33	2916	-119
OCT	225	10	2735	-136	225	5	2983	108	254	7	3170	-112
NOV	115	83	2850	-53	118	91	3101	199	114	82	3284	-30
	DELAWARE				WOOSTER				S CHARLESTON			
APR	211	33	211	33	193	58	193	58	211	17	211	17
MAY	319	-32	530	1	295	-8	488	50	310	-61	521	-44
JUN	563	-5	1093	-4	520	14	1008	64	583	-5	1104	-49
JUL	683	-20	1776	-24	649	11	1657	75	702	-6	1806	-55
AUG	649	0	2425	-24	601	5	2258	80	647	-19	2453	-74
SEP	498	59	2923	35	445	54	2703	134	502	39	2955	-35
OCT	255	20	3178	55	239	45	2942	179	252	6	3207	-29
NOV	150	118	3328	173	135	117	3077	296	143	107	3350	78
	CIRCLEVILLE				CALDWELL				OXFORD			
APR	235	-2	235	-2	231	7	231	7	229	-23	229	-23
MAY	335	-90	570	-92	336	-44	567	-37	332	-102	561	-125
JUN	609	-36	1179	-128	581	18	1148	-19	600	-57	1161	-182
JUL	708	-61	1887	-189	705	10	1853	-9	706	-65	1867	-247
AUG	664	-62	2551	-251	680	17	2533	8	668	-64	2535	-311
SEP	526	2	3077	-249	522	58	3055	66	532	1	3067	-310
OCT	272	-18	3349	-267	284	23	3339	89	282	-15	3349	-325
NOV	151	85	3500	-182	162	112	3501	201	184	116	3533	-209
	RIPLEY				WILMINGTON				JACKSON			
APR	215	-36	215	-36	192	-8	192	-8	249	16	249	16
MAY	324	-94	539	-130	281	-96	473	-104	364	-29	613	-13
JUN	565	-55	1104	-185	569	-26	1042	-130	585	16	1198	3
JUL	677	-83	1781	-268	670	-41	1712	-171	708	3	1906	6
AUG	613	-101	2394	-369	600	-74	2312	-245	688	21	2594	27
SEP	492	-19	2886	-388	472	5	2784	-240	535	72	3129	99
OCT	264	-22	3150	-410	229	-21	3013	-261	298	26	3427	125
NOV	167	94	3317	-316	135	96	3148	-165	181	112	3608	237

1/ Deviations from normal growing degree days (GDD) are derived using the (GDD) over a 30-year period. These normals are updated each decade, and weather stations without deviations had less than 30 years of data during the period 1951-80.

LAST OCCURANCE OF CRITICAL FAHRENHEIT TEMPERATURES SPRING 1990

Stations	20		24		28		30		32		36		40		43	
	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day
Hoytville	4	19	4	19	4	19	4	20	4	20	5	3	6	6	6	6
Fremont	3	27	4	18	4	18	4	19	4	19	5	2	5	30	6	5
Willard	3	20	4	18	4	19	4	19	4	20	4	23	6	5	6	5
Celina	3	28	4	19	4	19	4	19	4	19	4	19	5	14	6	5
S Charleston	3	21	4	19	4	19	4	19	4	19	4	20	6	6	6	6
Ripley	4	7	4	13	4	19	4	19	4	19	4	20	5	11	5	30
Wooster	3	29	4	19	4	20	4	20	4	20	6	6	6	6	6	6
Canfield	3	29	4	19	4	20	5	13	6	6	6	6	6	6	6	6
Coshocton	3	8	4	7	4	18	4	18	4	18	4	19	6	6	6	6
OSU Columbus	3	7	4	8	4	18	4	18	4	18	4	22	6	5	6	5
Caldwell	3	8	4	8	4	19	4	19	4	19	4	20	6	6	6	6
Jackson	4	9	4	19	4	20	4	20	4	20	5	8	6	1	6	2
Pandora	3	8	4	13	4	19	4	19	4	19	4	19	5	11	6	5
Grape Branch	3	28	4	7	4	13	4	20	5	13	5	15	6	6	6	6
Wilmington	3	8	4	8	4	19	4	19	4	19	4	20	5	31	6	5
Marion	3	28	4	18	4	18	4	19	4	19	4	22	6	5	6	5
Circleville	3	27	4	9	4	19	4	19	4	19	4	20	5	23	6	5
Oxford	3	21	4	19	4	19	4	19	4	20	6	6	6	6	6	6
Delaware	3	29	4	19	4	19	4	19	4	20	6	6	6	6	6	6
Akron Canton	3	27	4	8	4	18	4	18	4	18	6	5	6	5	6	5
Cincinnati	3	20	4	8	4	8	4	18	4	18	4	19	5	11	6	5
Cleveland	3	27	4	18	4	18	4	19	4	19	4	22	6	5	6	5
Columbus	3	7	4	8	4	18	4	18	4	18	4	22	6	5	6	5
Dayton	3	20	4	7	4	18	4	18	4	18	4	19	6	5	6	5
Findlay	4	7	4	18	4	18	4	18	4	19	4	19	6	5	6	5
Mansfield	3	27	4	18	4	18	4	18	4	19	5	14	6	5	6	5
Toledo	4	18	4	18	4	18	4	19	5	2	5	30	5	31	6	5
Youngstown	3	28	4	18	4	19	4	19	5	12	6	5	6	5	6	5
Zanesville	3	7	4	8	4	18	4	18	4	19	4	19	6	5	6	5
Huntington	2	26	2	26	4	13	4	13	4	19	4	19	4	19	5	7
Parkersburg	3	4	4	8	4	13	4	18	4	19	4	19	5	31	5	31

FIRST OCCURANCE OF CRITICAL FAHRENHEIT TEMPERATURES FALL 1990

Stations	20		24		28		30		32		36		40		43	
	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day	Mo.	Day
Hoytville	12	15	10	30	10	27	10	27	10	21	10	2	9	18	9	18
Fremont	12	24	11	8	10	29	10	29	10	20	10	19	9	17	9	17
Willard	12	24	12	5	10	29	10	26	10	26	10	19	9	18	9	17
Celina	12	5	11	8	10	27	10	27	10	27	10	20	9	17	9	17
S. Charleston	12	6	11	9	10	27	10	27	10	20	9	25	9	18	9	18
Ripley	11	30	10	29	10	26	10	19	10	19	9	24	9	17	9	17
Wooster	12	15	11	9	10	27	10	21	10	20	9	19	9	18	9	18
Canfield	11	20	10	28	10	20	10	20	10	20	9	18	9	18	7	8
Coshocton	12	24	11	30	11	8	11	8	10	27	10	24	9	18	9	18
OSU Columbus	12	24	11	13	11	8	10	29	10	20	10	16	9	24	9	17
Caldwell	12	25	11	9	10	30	10	28	10	21	10	20	9	19	9	18
Jackson	12	1	10	30	10	28	10	21	10	21	9	25	9	18	9	18
Pandora	12	14	11	8	10	26	10	26	10	26	10	19	9	17	9	17
Grape Branch	12	25	12	5	11	15	10	30	10	27	9	18	9	18	9	18
Wilmington	12	5	11	8	10	26	10	26	10	20	10	16	9	18	9	17
Marion	12	24	11	14	11	8	10	27	10	26	10	20	9	18	9	17
Circleville	12	24	10	29	10	29	10	21	10	20	9	26	9	18	9	18
Oxford	12	6	11	9	10	30	10	27	10	27	10	20	9	24	9	18
Delaware	12	15	10	30	10	28	10	27	10	21	10	20	9	18	9	18
Akron Canton	12	24	11	14	11	8	10	27	10	20	10	20	9	18	9	17
Cincinnati	11	30	11	8	11	8	10	19	10	19	9	24	9	24		
Cleveland	12	24	11	14	11	14	10	27	10	20	10	20	9	18	9	18
Columbus	12	24	11	30	10	29	10	27	10	26	10	19	9	24	9	17
Dayton	12	5	11	8	10	26	10	26	10	26	10	19	9	24	9	17
Findlay	12	24	12	14	10	29	10	26	10	26	10	19	9	17	9	17
Mansfield	12	24	11	18	10	29	10	26	10	20	10	20	9	17	9	17
Toledo	12	14	10	29	10	26	10	26	10	20	9	18	9	17	9	17
Youngstown	12	25	11	14	10	27	10	20	10	20	9	18	9	17	7	7
Zanesville	12	24	11	18	10	27	10	27	10	20	10	20	9	18	9	17
Huntington	12	25	11	30	11	14	10	27	10	27	10	20	9	24	9	24
Parkersburg	12	8	11	30	10	27	10	27	10	27	10	20	10	16	9	18

CORN DEVELOPMENT BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date	Planted			Silked			Dent		
	1990	1989	Average	1990	1989	Average	1990	1989	Average
	Percent			Percent			Percent		
Apr 30	38	6	26						
May 5	65	9	47						
10	75	11	61						
15	80	14	71						
20	83	19	76						
25	85	28	81						
30	87	40	85						
Jun 5	90	53	89						
10	94	62	91						
15	96	68	93						
20	99	74	95						
Jul 10									
15					2	27			
20				12	9	45			
25				36	23	59			
30				46	42	72			
Aug 5				60	64	84			
10				76	76	91	2		12
15				90	85	95	4	4	19
20				94	92		8	5	28
25					94		14	9	38
30							26	17	50
Sep 5							36	28	61
10							48	46	73
15							61	66	83
20							74	74	90
25							85	82	93
30							90	88	96
Oct 5								92	
10								88	

CORN DEVELOPMENT BE SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date	Mature			Harvested for grain			Harvested for silage		
	1990	1989	Average	1990	1989	Average	1990	1989	Average
	Percent			Percent			Percent		
Aug 25							3		9
30	1		9				3	2	13
Sep 5	1		15				5	3	20
10	3	2	23				8	5	26
15	7	4	31				12	8	33
20	13	8	40				18	11	41
25	22	13	48				28	16	49
30	34	18	56	3		9	36	22	57
Oct 5	49	28	65	5	1	13	42	34	64
10	60	42	74	6	4	17	50	46	71
15	72	60	83	10	6	23	64	58	78
20		80		18	10	32	79	70	86
25				24	18	40	84		90
30				36	28	50	90		
Nov 5				50	45	61			
10				63	50	70			
15				72	62	78			
20				82	82	86			

SOYBEAN DEVELOPMENT BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date		Planted			Setting Pods		
		1990	1989	Average	1990	1989	Average
		Percent			Percent		
May	5	12		9			
	10	17	2	19			
	15	21	2	35			
	20	26	3	45			
	25	36	6	53			
	30	46	11	61			
Jun	5	56	17	68			
	10	68	26	74			
	15	80	36	81			
	20	88	45	85			
	25	94	56	89			
	30	97	82	96			
Jul	5	100	97	99			
	10			100			
	15						
	20						
	25				7	3	18
	30				25	5	31
Aug	5				52	19	56
	10				68	28	71
	15				75	40	79
	20				81	52	84
	25				89	64	89
	30				93	80	94

SOYBEAN DEVELOPMENT BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date		Mature			Harvested		
		1990	1989	Average	1990	1989	Average
		Percent			Percent		
Sep	20	4					
	25	12	4	41			
	30	22	12	47	5		18
Oct	5	41	23	60	9	6	21
	10	60	39	73	15	12	31
	15	72	59	84	24	19	42
	20	82	80	92	36	36	55
	25				46	52	65
	30				70	68	78
Nov	5				83	90	87
	10				90	92	92
	15				96	94	96
	20					97	

WINTER WHEAT DEVELOPMENT BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date	Planted*		
	1990	1989	Average
	Percent		
Sep 15		3	
20	2	6	3
25	3	9	7
30	8	12	14
Oct 5	16	22	25
10	23	34	37
15	34	45	49
20	44	62	62
25	52	74	73
30	71	83	83
Nov 5	83	92	90
10	90	95	94
15	93		97

*Planted for following years' harvest.

Date	Headed			Harvested		
	1989	1990	Average	1989	1990	Average
	Percent			Percent		
May 15						
20	16		18			
25	37	6	40			
30	68	21	66			
Jun 5	86	51	83			
10	95	89	95			
15	98	94	98			
20	100	98	100			
25						
30						
Jul 5				10	1	23
10				34	6	44
15				38	36	63
20				78	68	84
25				88	89	94
30				96	94	97
Aug 5				100	98	100

OATS DEVELOPMENT BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date	Planted			Headed			Harvested		
	1990	1989	Average	1990	1989	Average	1990	1989	Average
	Percent			Percent			Percent		
Apr 5									
10	27		27						
15	45		39						
20	62		53						
25	78	40	69						
30	87	60	81						
May 5	93	72	88						
10	95	78	92						
15		81	96						
20		84	97						
Jun 5				2	2	15			
10				18	6	29			
15				37	14	46			
20				60	26	62			
25				77	48	75			
30				87	53	82			
Jul 10				94	68	90			
15					90				
20							7		25
25							16	10	37
30							40	22	56
Aug 5							66	41	73
10							85	65	86
15							90	83	92
20								91	97

OTHER HAY HARVESTED BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date	First cutting			Second cutting			Third cutting		
	1990	1989	Average	1990	1989	Average	1990	1989	Average
	Percent			Percent			Percent		
May 30	9	5	16						
Jun 5	15	12	29						
10	26	20	42						
15	41	23	52						
20	56	27	62						
25	67	33	70						
30	79	50	79						
Jul 5	88	64	86						
10	92	75	91	7	4	14			
15	95	83	95	11	8	22			
20				23	14	31			
25				34	22	40			
30				44	30	50			
Aug 5				51	44	60			
10				53	54	65	5		9
15				62	60	71	12	5	12
20				74	66	76	15	8	14
25				76	67	79	15	8	22
30				78			22	11	28
Sep 5							30	15	36
10							38	16	44
15							45	[illegible]	49
20							51	30	57
25							55	44	65
30							61		

ALFALFA HAY HARVESTED BY SELECTED DATES, OHIO, 1990, 1989, AND 1985-89 AVERAGE

Date	First cutting			Second cutting			Third cutting		
	1990	1989	Average	1990	1989	Average	1990	1989	Average
	Percent			Percent			Percent		
May 30	17	8	29						
Jun 5	27	20	47						
10	40	33	60						
15	58	38	70						
20	78	42	78						
25	87	48	84						
30	93	62	90						
Jul 5	97	76	94	16		28			
10		87	96	23	10	33			
15				33	19	44			
20				50	32	56			
25				60	42	66			
30				70	51	74			
Aug 5				78	64	82			
10				87	73	88	20	7	23
15				91	80	92	29	9	31
20				93	86	94	36	13	38
25					89		40	18	46
30							51	29	57
Sep 5							64	41	68
10							71	49	75
15							74	55	77
20							78	63	84
25							82	73	89
30							88	81	92

DAYS FAVORABLE FOR FIELD WORK IN OHIO 1990, 1989 AND 1985-89 AVERAGE

Date		1990		1989		Average	
		7-day	Cumulative	7-day	Cumulative	7-day	Cumulative
				Number of days			
Apr.	8					0.9	0.9
	15	1.7	1.7			3.5	4.4
	22	1.4	3.1	3.1	3.1	4.3	8.7
	29	2.8	5.9	2.9	6.0	4.8	13.5
May	6	6.3	12.2	2.0	8.0	4.6	18.1
	13	3.8	16.0	0.6	8.6	5.2	23.3
	20	3.3	19.3	2.1	10.7	3.5	26.8
	27	0.8	20.1	1.8	12.5	3.8	30.6
June	3	3.3	23.4	3.8	16.3	4.6	35.2
	10	2.9	26.3	3.2	19.5	4.7	40.0
	17	3.2	29.5	1.2	20.7	3.6	43.6
	24	5.4	34.9	3.0	23.7	4.9	48.5
July	1	4.9	39.8	5.1	28.8	5.3	53.8
	8	5.8	45.6	5.5	34.3	5.0	58.8
	15	6.7	52.3	5.8	40.1	5.3	64.0
	22	1.8	54.1	4.7	44.8	5.5	69.6
	29	4.2	58.3	4.3	49.1	5.9	75.5
Aug.	5	5.6	63.9	5.4	54.5	6.0	81.5
	12	5.5	69.4	6.4	60.9	5.7	87.2
	19	5.2	74.6	6.2	67.1	6.2	93.4
	26	2.9	77.5	4.2	71.3	5.3	98.7
Sep.	2	5.5	83.0	4.6	75.9	5.2	103.8
	9	5.6	88.6	5.7	81.6	5.8	109.6
	16	5.1	93.7	3.4	85.0	5.2	114.9
	23	3.8	97.5	5.2	90.2	5.2	120.0
	30	3.2	100.7	6.4	96.6	5.4	125.4
Oct.	7	5.6	106.3	5.9	102.5	4.6	130.0
	14	4.8	111.1	4.6	107.1	5.4	135.4
	21	1.4	112.5	2.5	109.6	4.5	139.9
	28	4.0	116.5	6.4	116.0	5.6	145.5
Nov.	4	4.7	121.2	5.5	121.5	5.0	150.5
	11	6.7	127.9	3.6	125.1	2.6	153.1
	18	4.5	132.4	3.4	128.5	3.2	156.3
	25					3.0	159.3

CONSUMPTION OF COMMERCIAL FERTILIZERS IN OHIO 1987 TO 1990 1/

Specified mixtures and materials	Year ending June 30			
	1987	1988	1989	1990
	Tons			
All mixed fertilizers	560,356	546,122	507,112	554,465
18-46-00	135,238	135,061	139,340	169,786
06-24-24	44,476	36,315	26,439	24,346
19-19-19	18,554	18,054	16,717	28,644
Anhydrous ammonia	149,620	125,354	103,570	138,653
Urea	123,243	100,743	100,278	130,380
Ammonium nitrate	7,265	6,636	3,317	4,026
Ammonium sulfate	16,477	20,261	25,206	22,695
Nitrogen solutions	422,553	409,855	393,532	499,312
Superphosphates	46,417	40,644	42,978	48,982
Potassium chloride	389,527	419,933	352,677	418,325
Total all fertilizers 2/	1,768,260	1,697,398	1,562,984	1,856,772
Primary plant nutrients				
N	373,352	332,644	306,482	388,479
Available P^2O^5	178,719	175,123	171,283	192,820
K^2O	308,329	324,687	276,137	319,256
Total nutrients	860,400	832,454	753,902	900,555

1/ From 'Commercial Fertilizers' published by Tennessee Valley Authority, Economics and Marketing Staff, National Fertilizer Development Center. 2/Not the sum of above specified mixtures and materials.

FERTILIZER USE ON CORN, SOYBEAN AND WHEAT ACREAGE IN OHIO, 1990 1/

Crop	Acres received				Rate per acre receiving		
	Any Fertilizer	Nitrogen	P^2O^5	K^2O	Nitrogen	P^2O^5	K^2O
	Percent				Pounds		
Corn	99	99	94	89	151	72	101
Soybeans	47	20	29	47	11	48	105
Wheat	99	97	95	90	75	66	70

1/ Based on 1990 Objective Yield Surveys. Published in Agricultural Resources Inputs, February 1991.

AVERAGE PRICES PAID BY FARMERS PER TON FOR SELECTED COMMERCIAL FERTILIZERS 1/

Selected fertilizer	April 15, 1989	October 15, 1989	April 15, 1990	October 15, 1990
	Dollars per ton			
5-20-20	171	163	163	161
6-24-24	217	195	199	201
8-32-16	230	208	207	208
10-34-0	239	223	218	216
12-12-12	172	158	163	176
15-15-15	192	170	177	171
18-46-0	258	217	220	229
Ammonium nitrate	179	160	173	165
Urea 44-46%	213	165	180	195
Anhydrous ammonia	223	177	201	190
Nitrogen solution 28%	140	117	121	121
Superphosphate 44-46%	226	195	194	200
Muriat of potash 60%	162	152	154	149

1/ Based on sales in Illinois, Indiana, Iowa, Minnesota, Ohio and Wisconsin.

FERTILIZER PRODUCT AND NUTRIENT TON DELIVERIES BY COUNTY JULY 1989 TO JUNE 1990

County	Product tons	Nitrogen tons	P_2O_5 tons	K_2O tons	County	Product tons	Nitrogen tons	P_2O_5 tons	K_2O tons
Adams	49,092	11,461	3,371	10,442	Licking	6,966	1,363	387	804
Allen	11,714	2,666	921	2,014	Logan	23,998	4,798	2,459	4,365
Ashland	29,764	6,061	3,098	7,118	Lorain	6,749	1,032	858	1,624
Ashtabula	10,852	1,762	1,414	2,611	Lucas	24,389	5,324	1,862	4,221
Athens	1,308	266	196	263	Madison	34,313	7,096	3,341	6,338
Auglaize	37,523	7,006	3,803	7,466	Mahoning	12,044	2,763	1,025	1,925
Belmont	2,390	447	347	406	Marion	41,565	8,774	3,660	7,049
Brown	5,215	938	524	1,094	Medina	6,189	1,075	714	1,253
Butler	14,241	2,903	910	2,219	Meigs	1,144	193	175	210
Carroll	854	185	89	65	Mercer	34,576	6,505	2,441	6,074
Champaign	67,831	20,019	5,081	10,364	Miami	33,701	6,965	3,762	5,783
Clark	30,111	7,791	2,529	5,763	Monroe	430	75	67	75
Clermont	1,235	238	140	40	Montgomery	11,945	2,889	1,068	2,000
Clinton	34,178	7,477	3,059	5,664	Morgan	10	1	2	2
Columbian	75,075	15,581	19,016	7,699	Morrow	19,685	3,622	2,068	3,879
Coshocton	4,942	1,216	395	954	Muskingum	8,045	1,703	569	1,269
Crawford	42,299	8,666	4,598	8,373	Noble	655	56	139	74
Cuyahoga	2,271	368	258	274	Ottawa	15,839	2,195	1,744	3,979
Darke	58,238	11,501	5,605	12,524	Paulding	17,575	3,581	2,193	2,456
Defiance	21,235	4,204	2,380	3,581	Perry	3,137	869	354	469
Delaware	27,116	4,284	3,321	4,884	Pickaway	52,970	11,574	4,926	8,641
Erie	7,965	1,549	1,003	1,981	Pike	3,229	700	345	690
Fairfield	24,412	5,613	1,648	3,835	Portage	4,849	808	181	1,154
Fayette	32,583	6,600	2,878	6,164	Preble	52,977	12,174	5,009	8,903
Franklin	4,085	849	408	537	Putnam	63,721	13,813	6,822	9,125
Fulton	27,203	6,198	1,898	5,704	Richland	21,744	4,463	2,176	4,375
Gallia	357	62	38	40	Ross	9,240	2,133	921	1,009
Geauga	12,505	2,260	1,668	2,665	Sandusky	59,153	10,688	5,509	11,603
Greene	19,966	5,333	2,079	3,531	Scioto	612	132	75	93
Guernsey	3,797	1,693	205	420	Seneca	56,815	11,328	5,224	11,141
Hamilton	3,069	1,041	82	179	Shelby	23,574	4,021	2,476	4,047
Hancock	53,641	10,886	5,901	9,904	Stark	14,914	3,368	1,986	1,170
Hardin	40,602	9,625	4,155	6,947	Summit	929	173	78	118
Harrison	2,362	1,163	78	160	Trumbull	6,226	1,223	822	1,223
Henry	51,424	10,906	4,900	8,045	Tuscarawas	15,357	3,170	2,300	2,386
Highland	21,880	3,603	2,553	4,528	Union	35,191	7,514	3,845	6,054
Hocking	1,186	231	145	192	Van Wert	31,353	6,939	3,447	4,761
Holmes	2,108	346	308	399	Vinton	1,519	1,116	14	74
Huron	44,625	9,800	6,384	6,469	Warren	13,531	3,060	1,109	2,559
Jackson	11,747	2,109	1,432	2,402	Washington	12,230	2,548	1,685	2,479
Jefferson	2,013	327	281	387	Wayne	25,472	4,579	2,904	4,550
Knox	13,089	2,401	1,331	2,019	Williams	35,998	8,008	3,742	6,171
Lake	1,025	190	114	122	Wood	53,743	11,354	5,060	8,004
Lawrence	282	44	39	40	Wyandot	22,850	4,855	2,696	4,596

COMMERCIAL FLORICULTURE PRODUCTION AND VALUE, OHIO, 1989 AND 1990

Crop	Unit	Quantity sold total units (1000 units)		Percent of sales sold wholesale		Wholesale Price (Dollars)		Wholesale Value of Total sales (1000 Dollars)	
	Unit	1989	1990	1989	1990	1989	1990	1989	1990
Cut flowers									
Carnation									
Standard	Blooms	1/	1/	1/	1/	1/	1/	1/	1/
Miniature	Bunches	1/	1/	1/	1/	1/	1/	1/	1/
Roses									
Hybrid tea	Blooms	12,095	11,972	99	99	0.502	0.500	6,072	5,986
Sweetheart	Bunches	2,360	2,299	100	99	0.325	0.309	767	710
Chrysanthemums									
Standard	Blooms	573	411	41	42	0.672	0.663	385	272
Pompon	Bunches	200	138	49	46	2.600	2.250	520	311
Glanioli	Spikes	1/	1/	1/	1/	1/	1/	1/	1/
Other cut flowers		1/	1/	1/	1/	1/	1/	1/	1/
Potted plants									
African violets	Pots	5,020	4,990	99	99	1.100	1.100	5,525	5,489
Crysanthemums	Pots	1,042	967	95	96	1.540	1.490	3,438	3,198
Azaleas	Pots	1,266	1,260	100	100	2.000	1.540	4,269	5,462
Lillies									
Easter	Pots	687,000	672,000	91	92			2,398	2,412
Other	Pots	49,000	51,000	82	75	1.330	1.260	177	160
Poinsettias	Pots	3,489	3,625	85	85	1.580	1.590	12,283	12,850
Other flowering	Pots	2,116	2,527	93	92	1.320	1.320	4,787	5,336
Potted foliage 2/	Pots							4,371	4,851
Hanging baskets									
Flowering	Baskets								
Foliage	Baskets	1,467	1,740	96	96	3.870	3.870	5,677	6,734
Bedding/flats									
Geraniaums	Flats	390	361	84	85	8.610	8.370	3,358	3,022
Flowering/foliage	Flats	5,652	5,627	80	80	5.350	5.510	30,238	31,005
Vegetable	Flats	797	917	70	72	5.220	5.280	4,160	4,842
Bedding plants									
Hardy mums	Pots	2,254	2,493	41	46	1.740	1.650	3,817	4,126
Geraniums									
Cuttings	Pots	5,480	5,257	68	71	1.150	1.120	6,756	6,387
Seeded	Pots	3,483	4,427	78	81	0.840	0.730	3,058	3,284
Other potted	Pots	3,417	7,204	77	51	1.020	0.880	4,067	7,893
Vegetable pots	Pots	555	511	53	53	0.790	0.700	468	388

1/ Not published to avoid disclosing individual operations. 2/ Gross value of sales less cost of plant material purchased from other growers for growing on equals wholesale value.

POTTED PLANTS SOLD BY SIZE OF POT, OHIO, 1989 AND 1990

	1989			1990		
	>5 in.	<5 in.	Total	>5 in.	<5 in.	Total
	Thousand pots					
African violets	5,019	1	5,020	4,990	-	4,990
Chrysanthemums	238	804	1,042	216	751	967
Azaleas	731	535	1,266	731	529	1,260
Easter lillies	-	687	687	1	671	672
Other lillies	10	39	49	15	36	51
Poinsettias	770	2,719	3,489	835	2,790	3,625
Other flowering	1,264	852	2,116	1,496	1,031	2,527

THE OHIO DEPART MENT OF AGRICULTURE ANNUAL REPORT 1990

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DIVISION OF ADMINISTRATION

Reynoldsburg Laboratory Complex

ODA's Reynoldsburg Complex was initially constructed in 1912 as a facility to assist in perfecting a serum for hog cholera, which at the time was threatening Ohio's thriving swine industry.

Over the years the Complex has become the foundation of the Ohio Department of Agriculture. It has grown from 10 buildings to 17, the most recent completed in 1987. The original buildings were built with penal labor, primarily as brick barns. The tract of land they occupied was 98.67 acres; it was transferred from The Ohio State University to ODA on July 1, 1952.

ODA's ownership of the Laboratory Complex has provided the Department with the opportunity to centralize all its support laboratories, such as Plant Industry, Animal Industry, etc. in one location. This has saved tax dollars by allowing more efficient management of resources.

In December of 1974, 37.33 acres of land were transferred to the State Department of Commerce for construction of the State Fire Academy.

In July of 1988, ODA purchased an adjacent farm of approximately 110 acres. Presently, 6.5 acres is being used by the Ohio Department of Transportation for a radio tower. the balance of this new acreage is being provided to The Ohio State University for research on sustainable agriculture.

Summary of Statutory and Regulatory Changes

During the past year, the Department's Feed and Fertilizer Section, with the help of industry, adopted new rules governing the storage and handling of bulk liquid and dry fertilizer. These rules require new and existing storage facilities to meet prescribed design requirements and establish discharge response plans. Also required are inspection schedules of storage tanks and appurtenances and maintenance records. These rules also prescribe operational procedures to be followed during fertilizer handling.

The Division of Weights and Measures established minimum training requirements for publicly employed weights and measures inspectors. Under these rules, inspectors must complete a self-study program and obtain eighteen hours of continuing education annually. The division also established a new rate schedule for laboratory services based on the type of work done and the type of device serviced.

The Division of Foods, Dairies and Drugs amended its existing labeling rule for milk, to allow bottled milk sold in Ohio to indicate on its label the percent of the product that is fat free.

Technological advances have made possible reliable self-cleaning frozen dessert dispensers. At the request of industry, the Division amended its existing rules to allow use of these machines.

Department rules regulating games at the state and county fairs were amended to permit a game called high striker to be played for prizes and to allow multiple prize games. Added to the list of permitted games was "toss em in basket". Rules were also adopted to restrict agricultural society sponsored horse races to the sponsoring society's race track. This was done to encourage the maintenance and development of society tracks. Two additional rules governing agricultural societies were adopted. The first allows tie votes for directorships to be determined by a coin flip to avoid costs of a runoff election. The second rule permits increasing director's compensation to $25.00 per meeting for a maximum of 12 meetings per year.

The Division of Animal Industry adopted new rules which established sanitation and record keeping requirements for exhibition sponsors. These new rules also set up responsibilities of exhibitors in regard to health, inspection, test, vaccination and document requirements for animals moved or imported into Ohio for exhibition at county and independent Agricultural Society fairs and the Ohio State Fair.

Rules were also adopted clarifying dispensing and use of pseudorabies vaccine and establishing identification procedures for vaccinated animals.

In an effort to control and eradicate pseudorabies, rules were enacted regulating the movement of swine through livestock markets.

Agricultural Financing Commission

The Ohio Agricultural Financing Commission (OAFC) was created and authorized by the 115th General Assembly (H.B. 826). The Commission consists of nine members: Director Fred L. Dailey, Ohio Department of Agriculture; Director Donald Jakeway, Ohio Department of Development; Mary Ellen Withrow, Treasurer, State of Ohio; Members - Judith Hall, C.P.A., James Lewis, Vice Chairman; Dick Tootle, Glenn Lackey, Francis Less, and Joseph Luby.

When implemented, the Commission's primary function was to issue tax-exempt revenue bonds to private lending institutions, thereby generating money which Ohio's farmers could borrow at low interest rates. Farmers use the money to acquire and improve agricultural land and equipment. In 1986, due to changes in the federal tax laws, the feasibility and effectiveness of issuing tax-exempt agricultural revenue bonds was greatly reduced. Accordingly, the Commission's activities were significantly reduced during the last half of 1988 because of tax law changes.

Interest in the OAFC increased slightly during 1990. However, only two tax-exempt bonds were issued in the amount of $260,000. Although the number of requests increased during 1990, the lack of participation by lending institutions and restrictions of the program limited the Commission's activities. The tax-exempt bond program in agriculture has a sunset date of December 31, 1991. Unless the sunset is extended or completely lifted, the tax-exempt bond program will terminate at the end of the federal fiscal year.

Office of Fairs

The Office of Fairs regulates Ohio's 94 County and Independent Agricultural Fairs. This office has the responsibility of observing to determine that all fairs in Ohio are being operated under the guidelines of educational, agricultural and of a moral nature.

The new audit program became effective December 1, 1988. The Office of Fairs completed 46 audits in 1990. The Office conducted a training session for all new Secretaries and Treasurers on our Uniform System of Accounting for Agricultural Societies.

Based upon audits from the County and Independent Fair Annual Reports, checks are issued from the Ohio Fairs Fund for the coming year. These monies come from a tax on pari-mutuel wagering and are used for track maintenance, general operations and race purses. The Office distributes checks from the Ohio Fairs Fund after each fair submits an acceptable annual report.

Health and Safety Office

The Health and Safety Officer has set up a Safety Committee in each building to assure safe operating conditions for employees. The Health and Safety Officer teaches CPR and Adult First Aid classes to employees.

The Health and Safety Office has a working program to properly dispose of hazardous materials and chemicals from the Reynoldsburg Laboratories Complex.

STATEMENT OF EXPENDITURES
FISCAL YEAR 1990

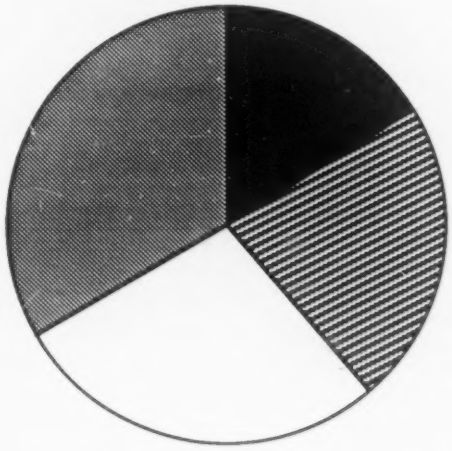
SPECIAL PURPOSE GENERAL REVENUE FUND	
Swine and Cattle Breeder Awards	$ 10,004
Animal Industry	2,283,479
Rodent Control	38,142
Meat Inspection (State Match)	3,402,689
County Agricultural Societies	217,999
Gypsy Moth Prevention	118,259
Poultry Disease Prevention	172,414
International Trade	135,534
Agricultural Innovations	400,000
Farm Loan Mediation	8,642
TOTAL SPECIAL PURPOSE ITEMS	$ 6,787,162*
GRAND TOTAL EXPENDITURES ALL FUNDS	$ 29,130,634

GENERAL OPERATING GENERAL REVENUE FUND	
Administration	$ 3,472,495
Foods, Dairies and Drugs	963,173
Marketing & Communications	458,846
Plant Industry	1,499,279
Weights and Measures	627,540
Fairs & Amusement Ride Safety	505,973
Grain Warehouse	593,490
TOTAL DIVISIONAL GRF OPERATING EXPENDITURES	8,120,796*

*includes salary, fringe benefits, maintenance & equipment

FEDERAL MONIES SPECIAL REVENUE ACCOUNTS
16.3% Total Expenditures

SPECIAL ACCOUNTS & STATE SPECIAL REVENUE ACCOUNTS
33.4% Total Expenditures



GENERAL OPERATING REVENUE ACCOUNTS
27.7% Total Expenditures

SPECIAL PURPOSE GENERAL REVENUE ACCOUNTS
22.6% Total Expenditures

FEDERAL MONIES SPECIAL REVENUE ACCOUNTS 16.3% Total Expenditures	$ 4,770,578*
Ohio Farm Revolving Loan Program	$ 93,616
Federal Cooperative Contracts	844,673
Meat Inspection Services	3,832,289
TOTAL	$ 4,770,578

SPECIAL ACCOUNTS & STATE SPECIAL REVENUE ACCOUNTS 33.4% Total Expenditures	$ 9,716,098
Capital Improvements	$ 3,078,472
Poultry & Dairy Products	1,452,853
Fruit & Vegetables	398,408
Agricultural Commodity Marketing Program	2,609,025
Meat Contract Inspection	14,341
Ohio Grape Industries	487,861
Commodity Handlers Regulatory Program	396,518
Commodity Indemnity Fund	693,526
Ride Inspection	140,616
Scale Certification	59,132
Brand Registration	5,770
Grade "A" Milk Laboratory Services	50,759
Pesticide Program	328,820
TOTAL	$ 9,716,098

GENERAL OPERATING REVENUE ACCOUNTS 27.7% Total Expenditures	$ 8,074,796

SPECIAL PURPOSE GENERAL REVENUE ACCOUNTS
22.6% Total Expenditures

DIVISION OF ANIMAL INDUSTRY

During 1990, positive progress was made in the area of regulatory programs and laboratory services. Pseudorabies quarantines were reduced from 145 to 94 which marks the most significant progress since the program started in the late 1970s. Changes in the diagnostic laboratory have increased services to the livestock and poultry industries and set goals that should improve service to those industries through the nineties.

Tuberculosis - Ohio was declared free of bovine tuberculosis on September 19, 1990, by USDA, APHIS, Veterinary Services. This means Ohio has had no bovine tuberculosis within the last 5 years. This status has a positive affect on the Ohio cattle industry as it allows for expansion of export markets. It also decreases testing costs on interstate movement of cattle. Surveillance is being continued through slaughter and TB testing on the farm.

Equine Infectious Anemia - Ohio continued an active equine infectious anemia program during 1991 by testing 38,211 serum samples for E.I.A. Four positive horses were found and removed as a source of infection to the equine industry

Brucellosis - Ohio continues to be certified brucellosis free (cattle) and validated brucellosis free (swine). During 1990, a horse imported from Argentina (through a USDA quarantine station) developed fistulous withers. Cultures were positive for Brucella abortus. This horse was quarantined until euthanized, and no known exposure to cattle occurred. This case demonstrates the risk of the international movement of animals. This incident has no effect on Ohio status, as a horse was involved. Ohio continues to survey for brucellosis by testing cows, bulls, sows, and boars at slaughter.

Pseudorabies - With a swine population of 2.08 million, Ohio continues to be the largest swine producing state in Stage III Pseudorabies Virus (PRV) status. By gaining this status, feeder pig producers in Ohio can move their feeder swine more freely in interstate commerce. During 1990, 40 newly infected herds were found while 91 herds were released from quarantine. This is a 50% reduction in newly infected herds and a 34% increase in the number of herds released from quarantine when compared to 1989. On December 31, 1990, Ohio had 94 known PRV infected herds.

Ninety-five percent of all PRV vaccine sold in the state is gene-deleted. This allows the use of a companion test to differentiate immunity caused by field strain virus from antibodies produced by vaccine strain virus. During 1990, Ohio tested 15,270 swine serum samples using this technology.

Licensing and Inspection - The Licensing and Inspection Section administers the Livestock Dealer Law, the Rendering Law, and the Garbage Law. These laws are in place to promote and protect these various industry sectors.

Livestock dealers are regulated with regard to financial responsibility, accurate weights, acquisition/disposal records, and general sanitation. Market records serve a critical need regarding epidemiology in disease investigation. Statute requirements for financial responsibility and accurate weights provide protection from loss to livestock producers and the livestock industry.

The Rendering Law provides assurance of proper disposition for raw material rendering through programs which require licenses and inspection of both collectors and renderers. Inspections of licensees are conducted on a regular basis to assure proper containment, shipping, and operational sanitation for each phase of the rendering process.

The Garbage Law requires a license and inspection of facilities for anyone who feeds garbage to swine. Monthly inspection of these facilities checks the cooking system (i.e., temperature), general premise sanitation, and overall health of the animals on hand. This program greatly enhances the ability to prevent the spread of exotic and domestic disease conditions.

The Licensing and Inspection Section issues licenses to livestock dealers and weighers, rendering collectors/processors, and garbage feeders which collectively totalled 1,017 licenses issued in 1990.

Laboratory Services Unit - The Division of Animal Industry Laboratory Services Unit is committed to pursuit of excellence in support of state-federal animal disease eradication programs, and to continued improvement of diagnostic services to Ohio's animal and poultry industries. The Laboratory Services Unit provides core support in pathology, serologic, microbiological, and virologic testing in investigation of animal disease problems. Ancillary services include clinical pathology, parasitology, and toxicologic evaluations.

In renewed efforts to better meet the needs of Ohio's livestock and poultry producers, major activities undertaken in 1990 were the formation and first meeting of a Laboratory Services Advisory Committee, and consultation with a former leader of the

American Association of Veterinary Laboratory Diagnosticians (AAVLD) on laboratory accreditation. Progress was also made in: completion of capital improvements to enhance utilization of laboratory space; completion of personnel training at the National Veterinary Services Laboratory in support of export testing capabilities; investigation of new diagnostic technologies, e.g., DNA probes, automated microbiology system for identification and sensitivity testing; expansion and improvement of diagnostic testing capabilities, e.g., addition of in-house histopathology service, direct and immunoelectron microscopic techniques, increased utilization of differential ELISA tests in support of the pseudorabies eradication program, addition of Chlamydia isolation, Epizootic Hemorrhagic Disease-AGID, Transmissible Gastroenterities-SN, Porcine parvovirus-HI, Equine Infectious Anemia-CELISA, Parvovirus-HI, Bluetongue-CF, Avian Coryza and Parymyxovirus 2 and 3 serologies to laboratory services; increased laboratory support of the Salmonella enteritidis program; participation of laboratory personnel in continuing education programs and in dissemination of information to producers and veterinarians in direct support of disease diagnosis programs.

In 1991, major emphasis will be placed on progress toward accreditation by the American Association of Veterinary Laboratory Diagnosticians, prerequisite for full support of Ohio's agricultural export markets. AAVLD accreditation recognizes standards of quality, service, and laboratory achievement that are inherent in the goal of providing excellence in veterinary diagnostic service to Ohio's animal industries. Critical components of that AAVLD accreditation package include relief of staffing deficiencies in areas of pathology and toxicology support, completion of histology training and laboratory preparation, and development of a more comprehensive annual report. Further computerization of laboratory record keeping is a corollary objective pivotal to laboratory efficiency and to improvement of timeliness in case and annual reporting.

Personnel training in Foreign Animal Disease diagnosis, further interaction with the Laboratory Advisory Committee, and generation of an up-dated laboratory services manual are additional goals.

The Division of Animal Industry Laboratory Services Unit recognizes the impact of quality, timely laboratory support on Ohio's agricultural industries, and promotes cooperative interaction in furthering both laboratory and agricultural industry goals.

ANIMAL DISEASE PROGRAMS
January 1, 1990 – December 31, 1990

BRUCELLOSIS

Bovine

Farm Blood Tests - Herds	3,717
Cattle	40,552
Milk Ring - Herds	8,371
Cattle	326,469
Overall Infection Rate (Cattle)	0%
Calves Vaccinated	69,707
Cattle Blood Tests at Livestock Markets	28,698
Samples collected at Slaughter	62,069

Porcine

Slaughter Swine Tests - Ohio	25,615
Out of State	12,265

TUBERCULOSIS

Tuberculin Tests - Herds (Cattle)	2,498
Number of Cattle	32,237
Herds w/reactors	0
Number of reactors	0
EIA tests of Ohio horses	38,211
Number of Ohio horses "Positive"	4
Percent of total tested	.010
Number of Positive horses destroyed	5

POULTRY

Pullorum/Typhoid Plate Test (Field) **1989** - 8,294
1990 - 6,884

PSEUDORABIES

	1989	1990
Swine tested	112,177	99,959
Infected herds found	81	40
Quarantined herds (on 12-31-90)	145	94

LICENSING AND INSPECTION ACTIVITIES
January 1, 1990 - December 31, 1990

Type of License Issued	1989	1990
Auction Markets	33	37
Horse Auctions	6	8
Concentration Yards	77	75
Slaughtering Establishments	96	89
Livestock Dealers	165	162
Weighers	564	582
Rendering Plants	8	8
Collectors of Raw Rendering Material	56	52
Garbage Feeders	4	4
Inspections Performed		
Auction Markets	1,761	1,868
Concentration Yards	1,283	1,250
Rendering Plants and Raw Rendering Material Collectors	78	93
Garbage Feeders	42	43
Permits to Import Feeders	153,453	158,918
Permits issued	1,370	1,302
Premises inspected	945	932
LABORATORY SERVICES UNIT		
Activities	**Number of Tests**	
Pathology Accessions	4,987	5,275
Feed analysis	410	283
Toxicological tests	214	550
*Tissues examined histologically (in-house)	3,793	6,476
Johne's Culture	1,818	2,399
Brucella culture	91	118
Salmonella culture (includes "U.S. Sanitation monitored Plan")	23,811	23,274
Brucella Serology - Cattle	152,344	116,194
- Swine	7,4317	58,175
- Other	3,655	2,535
Brucellosis ring tests	32,562	29,615
Equine Infectious Anemia-AGID	35,958	38,212
Ovine progressive pneumonia/caprine arthritis encephalitis-AGID	882	2,074
*Epizootic Hemorrhagic Disease-AGID	NA	53

Pseudorabies Tests:	
ELISA	80,578
ELISA GPX	14,746
ELISA G1	524
Latex Agglutination	19,314
Serum Neutralization	11,904
	127,066
*Transmissible Gastoenteritis-SN	383
*Parvovirus-HI	82
Bluetongue - AGID	6,585
- *CF	17
Johne's C	1,454
Anaplasmosis tests - Card	2,553
- CF	3,692
Bovine Leukosis - AGID	5,530
Infectious Bovine Rhinotracheitis-SN	1,916
Parainfluenza 3 -HI	647
Bovine virus diarrhea - SN	1,798
Bovine respiratory syncytial virus-SN	528
Vesicular stomatitis (Indiana and New Jersey) -SN	1,753
Leptospirosis- MAT (6 serovars)	33,781
Fluorescent Antibody - cases	2,783
- total tests	4,922

Virus Isolation:	
- egg inoculation	10
- tissue culture	122
- semen culture	267
*Chlamydia isolation (December only)	6
*Electron microscopy - direct	21
- immuno electron microscopy	10

Avian Tests	
Plate:	
-Salmonella pullorum	19,465
-Mycoplasma gallisepticum	72,960
-Mycoplasma synoviae	60,015
-Mycoplasma meleagridis	53,002
-*Coryza	157
Tube:	
-Salmonella pullorum	6,421
-Salmonella typhimurium	14,038
-Salmonella enteritidis	2,100

HI:	
-Mycoplasma gallisepticum	5,639
-Mycoplasma synoviae	3,639
-Mycoplasma meleagridis	283
-Newcastle Disease virus virus	4,402
-*Paramyxovirus-2	595
-*Paramyxovirus-3	595
MIDT:	
-Avian influenza	3,069
-Hemmorrhagic Enteritis virus	4,402
-Adenovirus	80
-Laryngotracheitis	39
ELISA:	
-Pasteurella multocida	669
-Infectious Bronchitic virus	9,578
-Infectious Brusal disease	4,957
-Avian encephalomyelitis	4,736
-Mycoplasma gallisepticum	248
Samples prepared and shipped to National Veterinary Services Laboratories	649

* Denotes test capabilities added in 1990

Abbreviations used:

AGID	-	Agar gel immunodiffusion
CF	-	Complement Fixation
MAT	-	Microscopic agglutination test
HI	-	Hemagglutination inhibition
MIDT	-	Microimmunodiffusion test
ELISA	-	Enzyme labeled immunosorbent assay

DIVISION OF AMUSEMENT RIDE SAFETY

Every year, hundreds of thousands of "children of all ages" delight in the rides and games at Ohio's amusement parks, county and independent fairs, and of course, the biggest one of them all - the Ohio State Fair. Everyone is caught in a whirl of excitement. Many people do not stop to think about safety while participating in such fun activities. However, safety IS extremely important. Without proper precautions, these favorite playgrounds can be dangerous to the unwary.

The responsibility for ensuring the safety of Ohio fair-goers falls to the Amusement Ride Safety Division of the Ohio Department of Agriculture. Created in 1985, the Division inspects, licenses and maintains records on over 1,300 amusement rides at over 1,200 events and fixed facilities throughout the state. Current employees include: 11 inspectors, 2 supervisors, 1 chief inspector, 1 administrative assistant and 1 secretarial person.

RIDE LICENSING

All amusement operators must have a certificate of insurance on file with the Division of Amusement Ride Safety stating that the company meets all insurance requirements set forth by state law. Each ride must have a permanent brass numbered I.D. plate provided by the Ohio Department of Agriculture. The I.D. plate affixed to the ride equipment serves as a permanent license number for that ride, making it easier for the Department to track the ride from owner to owner, and to follow maintenance and modification records. An inspector must verify each ride's I.D. plate before inspecting the ride.

There are three different types of inspections done by the Division of Amusement Ride Safety; the initial inspection, supplemental inspection, and re-inspection. In an initial inspection, all rides must meet the requirements established by both the Department of Agriculture and the manufacturers of the ride. The inspectors verify the safety of every amusement ride operated in the state. If a problem is found on the ride, and that problem cannot be corrected while the inspector is on site, the ride will not be licensed, nor will it receive a validation sticker which must be attached to all brass I.D. plates before the ride can operate. The ride will ONLY be allowed to run when all problems are corrected.

The second and third types of inspection are the supplemental inspections and re-inspection. A re-inspection can occur throughout the year at either the ride company's request and/or the request of an event sponsor. When a periodic inspection is assigned by the Chief Ride Inspector, this inspection is known as a supplemental. If a problem is found with a ride during either a supplemental or re-inspection, every effort is made to work with the owner of the ride to make corrections while the inspector is on site, so that the ride will not have to be closed.

If the ride problem cannot be solved in a timely manner, and the ride is determined to cause a safety hazard to the riding public, the inspector will issue a "stop operation order", and tie a red tag to the controls of the ride. The ride cannot operate until the ride passes inspection.

In every ride inspection, the following areas are covered: structural integrity, electrical safety, hydraulic systems, brakes, tubs and sweeps, the ride's operation, and proper warning signs and rules.

In addition, the State of Ohio requires that all ride owners keep accurate maintenance logs on a year round basis. The inspectors must verify the maintenance logs of each ride while on the inspection site, to ensure that the manufacturer's safety modifications and general upkeep of the ride are being carried out.

When any problems are found with the ride, the inspector issues a safety order which mandates that the repairs listed must be made by the stated date on the order. After making the repairs, the ride owner will send a signed copy of the inspection report to the Ohio Department of Agriculture which is kept on file under the ride company's name.

TRAINING

Amusement Ride Safety inspectors receive 80 hours of formal classroom training each year to upgrade their expertise in the ever-changing ride industry. New rides are constantly being developed by manufacturers, each one presenting new mechanics. Currently, there are over 700 rides in existence, built by more than 150 manufacturers. In order to do the job properly, each inspector must have a thorough understanding of electrical and hydraulic systems, preventative maintenance, lubrication and mechanical components.

In addition, inspectors work to upgrade their amusement rise training manual which outlines inspection guidelines. These guidelines are based on manu-facturer's recommendations and procedures that were developed by other regulatory authorities in cooperation with the Amusement Rides Safety Division.

Ride inspectors make field visits to every ride company based in Ohio to discuss maintenance procedures and safety bulletins. In the interest of safety, the Department strives to promote a good working relationship between the Division inspectors and the people who work in the amusement rise industry.

GAMES / NOVELTIES / SIDE SHOWS

The Ohio Department of Agriculture's Division of Amusement Ride Safety is also responsible for licensing and regulating all games, novelty stands and side shows at county and independent fairs, as well as the Ohio State Fair. Inspectors work to ensure that games are fairly operated, that novelty stands do not sell prohibited items, and that side shows do not misrepresent their displays.

PROGRAM

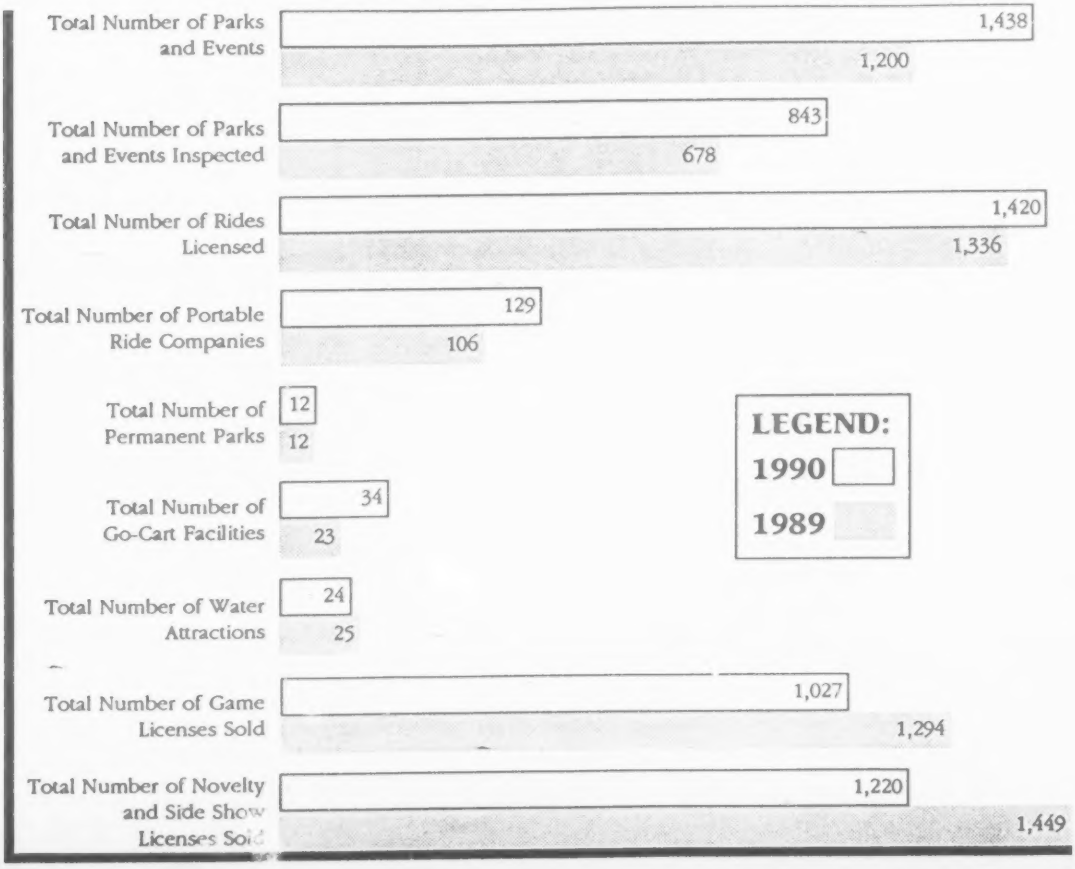
The Division, in conjunction with Cedar Point of Sandusky, Ohio, hosted the 4 th Annual National Association of Amusement Ride Safety Officials (NAARSO) Safety Forum, February 25 – March 1, 1990.

There are 38 states that have adopted ride safety legislation all of whom were represented at the Forum. Also in attendance were representatives from permanent parks, portable ride companies and the insurance industry.

The five day event included seminars, tours, hands on inspection of various rides at Cedar Point and group discussions.

NAARSO's goal is to standardize safety requirements across the country. The format allowed approximately 100 inspectors and industry executives to share inspection techniques and safety operational procedures.

FY 1990 Ride Safety Inspection Report



CONSUMER ANALYTICAL LABORATORIES

The Division of Consumer Analytical Laboratories (CAL) provides analytical support services to the regulatory and service divisions of the Ohio Department of Agriculture, Ohio Department of Health, Ohio Department of Natural Resources, Ohio Department of Education, Federal Food & Drug Administration , U.S. Department of Agriculture, U.S. Environmental Protection Agency, local police, departments of health, school districts, and similar agencies.

The Laboratories are staffed with chemists, biologists, microbiological and physical scientists. CAL provides regulatory and definitive laboratory analytical services to the consumers of Ohio and support services to other state and federal agencies.

The CAL is organized into four major areas of responsibility:

1. General Chemistry Laboratory - Responsible for food chemistry, meat products and Grade A milk analysis.
2. Microbiology Laboratory - Responsible for determining bacterial contamination of meat, food, dairy, water and beverage products, species determination of meat products and antibiotics in feed.
3. Agricultural Chemical Laboratory - Specializes in chemical analysis of animal feeds, fertilizers, lime, and other soil enhancers. Results of the analysis are compared with the label claims to assure the end user has obtained a product which is safe and properly represented in its label claim. This section also performs analysis of tissue, stomach contents, suspect feed, water and forage samples, for animal toxicology.
4. Pesticide Formulation and Residue Chemistry Laboratories analyze samples for compliance with Federal law and product label claims. Samples are

CONSUMER ANALYTICAL LABORATORY TESTS — FY 1990

Sample Source	Samples Received	Samples Reported[1]		Number of Tests		1990 Violations	
		1989	1990	1989	1990	No.	%
Foods, Dairies, Drugs	1,516	1,311	1,288	5,415	5,956	718	12.1
Meat Inspection	7,526	5,346	7,806	17,141	25,422	513	2.0
Animal Feed	1,985	NA[2]	1985	NA[3]	4,572	424	9.3
Fertilizer & Lime	963	NA[2]	1,188	NA[3]	2,473	218	8.8
Animal Industries	476	496	549	1,220	945	-	-
Consumer Complaints	1,339	1,142	1,339	2,672	2,652	-	-
Ohio Department of Health	4,047	NA[3]	4047	NA[3]	8,792	102	1.7
Ohio Department of Natural Resources	106	NA [3]	106	NA[3]	106		
Total	18,587	16,296	19,260	39,558	51,802	2,005	

1/ "Reported" means Sample Test completed; includes Samples from FY 1989
2/ In FY 1989 Animal Feed and Fertilizer and Lime Samples reported as 4,369; Test 8,996.
3/ In FY 1989, Ohio Department of Health and Ohio Department of Natural Resources reported Samples as 3,495; Tests, 4,077.

submitted for analysis to determine if pesticides have been improperly used, or if contamination has taken place as a result of spills or misuse.

In addition, this section also analyzes samples submitted by the Division of Animal Industry to determine if animal tissue, feed, forage or water has been contaminated by a class of chemicals which could cause deaths or health problems.

Residue Section of CAL contracts with the Department of Natural Resources to analyze fish from Lake Erie to determine contamination levels in commercial and sport fish resulting from industrial pollutants. The Residue Section also analyzes food, water and dairy products for the presence of pesticides, animal drug and other type of contaminants suspected of being present in a variety of food stuffs.

The CAL provides consultant services to the regulatory divisions of the Department as well as other state and federal agencies. CAL participates in scientific training and technical services at the state, regional, and national levels. Continuing education and participation in professional associations by CAL staff members provides awareness of the issues confronting the agricultural community, urban problems of Ohio consumers.

ENFORCEMENT

The Ohio Department of Agriculture is responsible for governing and administering many State and Federal laws. When a complaint is lodged, or it is believed that a violation of law has occurred, ODA's Division of Enforcement is brought into investigation.

The responsibilities of this Division include collecting and preserving evidence, examining records, interviewing involved parties, and presenting evidence to prosecuting authorities. Testimony in court and/or administrative hearings to secure prosecution and compliance is also required. ODA investigators must often work hand- in-hand with local, state and federal law enforcement officers to accomplish their goals, and pride themselves on a close working relationship with those authorities.

The Division sponsors an annual Welfare Fraud Seminar, which in 1990 attracted more than 200 participants from state, federal and county welfare departments as well as law enforcement officers. This special training focuses on the detection and elimination of all types of welfare fraud.

Currently, five investigators are assigned full-time to the Food Stamp Fraud Unit, one to the Pesticide Enforcement Section of the Division of Plant Industry, and three to the enforcement of the State/ Federal Meat Inspection Act. The remaining investigators cover the balance of ODA's divisions.

The Food Stamp Trafficking Unit (FSTU) - This unit was formed based on a contract between the United States Department of Agriculture's Food Nutrition Service, the Ohio Department of Human Services (ODHS), and ODA. Based upon this contract, the FSTU is the only statewide enforcement unit for food stamp fraud and trafficking. Since its implementation in 1984, FSTU has consisted of one Enforcement Supervisor, three criminal investigators, and one executive secretary under the direction of the Division Chief.

The majority of the referrals for investigation have come at the request of Federal, State, County and Municipal agencies. The Ohio FSTU Program has been a leader in establishing new ways to investigate food stamp fraud and works constantly with other State, Federal and local officials.

The Compliance and Evaluation Section (C&E) - This section consists of a criminal investigation supervisor, three criminal investigators, two investigators and one secretary.

The C & E staff started 1990 with 200 pending complaints: 275 new complaints were logged and 230 completed for a gain of 45 pending complaints over 1990.

During 1990, 55 complaints were handled as full-case investigations and resulted in 25 prosecutions. Some of the cases were resolved with warning letters or notices of violation. Others involved personnel and resulted in violation, while some involved personnel and resulted in resignation or other disciplinary action. A total of 155 warning letters, (75 more than 1989) or notices of violation were issued in 1989 to firms that did not warrant prosecution, primarily because of a first offense and a voluntary compliance aim taken by C & E.

The C & E staff executed 90 embargoes involving 67,556 pounds of food items, mostly meat and poultry that was either adulterated or misbranded. The impoundment occurred as a result of 1,705 reviews. In addition, 85 Evaluation Incident Reports were generated to the Meat Inspection Division concerning minor infractions of the Meat Inspection Regulations.

DIVISION OF FOODS, DAIRIES AND DRUGS

The Division of Foods, Dairies and Drugs inspects food and dairy products, beverages and drugs for problems associated with the production, merchandising and handling of these products. This includes adulteration, spoilage, improper handling in storage and transportation as well as labeling problems and false or misleading advertising. In addition, the Division also investigates consumer complaints related to food products.

An important aspect of the Food, Dairies, and Drugs protection program is grading services:

Fresh Fruit and Vegetable Inspection - The Division has a cooperative agreement with USDA to provide grading and inspection services to maintain the quality of produce sold in Ohio. Commercial inspection services provide the basis for orderly marketing of produce. Inspections take place at commercial establishments, institutions, and shipping points. Most state and federal institutions utilize these inspectors to insure the quality and condition of produce delivered. During the harvest season, additional graders are hired for grading of tomatoes, pickles, onions, and potatoes.

FOODS, DAIRIES AND DRUGS
ANNUAL REPORT
JANUARY 1, 1990 - DECEMBER 31, 1990

	TOTAL NO. OF LICENSES	DEPOSITS
Bakeries	5,536	$ 145,810.00
Frozen Food Establishments	2,889	72,355.00
Soft Drinks	200	20,000.00
Dairy Plants	70	4,117.50
Temporary Permits (Weigher, Sampler, Tester)	125	1,250.00
Weigher, Sampler, Tester Licenses	805	8,800.00
Frozen Desserts	2,182	67,947.50
Canneries	142	14,200.00
Syrups & Extracts	47	2,350.00
Cold Storage Warehouse	33	3,300.00
Total	12,029	$ 340,130.00

DIVISION OF MARKETING & COMMUNICATIONS

The Ohio Department of Agriculture's Division of Marketing and Communications has the statutory responsibility for developing and promoting markets for Ohio's agricultural products, and to communicate information that will enable farmers, producers, processors, consumers and support industries to enrich the lives of Ohioans.

One objective of the Division is to enhance the quality of lives for rural Ohioans by providing employment opportunities, created especially by developing markets for unique, high value agricultural products. Ohio has a large number of cottage-type businesses that produce many unique high value products; with market development and marketing assistance these type of businesses can significantly impact rural Ohio. The business structure and type of businesses in rural Ohio have undergone significant changes within the last ten years, leaving farmers with fewer marketing opportunities for their products.

A second objective of the Division is to present accurate, timely information regarding Ohio's agricultural foods, feeds and fibers. In cooperation with commodity groups and farm organizations, the Division distributes educational materials to school children; provides factual information to the media on consumer issues through news releases; assists in communication between agricultural sectors; and coordinates media between USDA various State agencies and various Department's of Agriculture.

The major media issues in 1990 were animal rights, the environment, and food safety. In each of these areas, the Division of Marketing and Communications worked with the media and industry so that accurate and timely information was disseminated. It was this Division of ODA which worked to provide a more accurate and positive understanding of the professionalism of today's farmers and the means taken to secure the safest food supply for the consuming public.

Commodity groups make a significant contribution to agricultural marketing, product development and research. The Division works with the Ohio Apple Marketing Program, Ohio Beef Council, Ohio Corn Marketing Association, Ohio Egg Marketing Program, Ohio Grape Industries Program, Ohio Nursery Stock Program, Ohio Pork Producers Association, various Purebred organizations, Ohio Sheep and Wool Program, Ohio Soybean Association, Ohio Turkey Marketing Program, Ohio Wine Producers, as well as other Ohio commodity groups.

1990 OVERVIEW

- Conducted the Ohio Corn Board election for five members to the Ohio Corn Marketing Program.
- Participated in the 30th Annual Ohio Roadside Marketing Conference held in Dayton.
- Participated in the Mid - American International Agri-Trade Council (MIATCO) activities of which the Director of Agriculture is a member.
- Coordinated the Agriculture Day Celebration held during National Agriculture Week in March, which consisted of Ohio agriculture commodity groups, restaurants and companies exhibiting samples of their products/commodities to Ohio Senators and Representatives, Directors of State Agencies and state elected officials. Over 40 of these commodity groups, companies and restaurants distributed their products to approximately 1,000 people in attendance.
- The Ohio Apple Challenge, conducted in four major cities within the State, consisted of a blind tasting of Ohio apples by local celebrities and the public. The purpose of this tasting was to prove that Ohio apples have better flavor than West Coast apples. Ohio apples won all four tasting done in these major cities.
- The Ohio Wine Challenge held both in Cleveland and Columbus hosted blind tasting of Ohio wines judged by local celebrities and wine experts. Ohio wines ranked very high when compared to non-Ohio popular varieties and renowned European varieties.
- Buy Ohio Food Week - The Department, in cooperation with The Ohio Department of Development's Buy Ohio Program, and the Ohio Grocers Association sponsored a salad toss-off contest to draw attention to Ohio foods. The contestants had to use Ohio products to develop their salad. The event was staged at several grocery stores throughout the state and media coverage was provided by local radio and TV celebrities.

- Heartland Cuisine - A program featured during the Ohio State Fair where noted Ohio Chefs demonstrate the preparation of recipes with Ohio products. A cookbook was compiled of these recipes and distributed throughout the time of the Fair.
- Ohio Department of Agriculture Chef - A program to inform and educate Ohio consumers on the availability and use of Ohio agricultural products.
- Participated in the quarterly National Association of State Department's of Agriculture (NASDA) functions.
- Participated in the Ohio Farm Science Review held in London, Ohio.
- Developed a variety of gift boxes consisting of Ohio food products for Telephone Pioneer's of America.
- Ohio Certified Lamb Pilot Project - The Department recruited Ohio restaurants who featured Ohio Lamb on their menus.
- Attended the Midwestern Association of State Departments of Agriculture (MASDA) annual meeting.
- Co-sponsored the Ohio Agricultural Governments Workshop in March.

URBAN CONSUMER AFFAIRS OFFICE

The Urban Consumer Affairs Office represents the Ohio Department of Agriculture in the greater Cleveland area. The focus of this office is to promote Ohio products to consumers and increase their awareness of these products. A complaint can be registered locally if someone has been short weighted, sold an unwholesome product or a product has been mislabeled.

The Urban Consumer Affairs Office served and/or represented the Department on the following committees or boards:

Greater Cleveland Interchurch Council, Hunger Task Force Commission

Future Farmers of America (FFA) Greater Cleveland Branch

Cuyahoga County Cooperative Extension Advisory Board

Lorain County Ag and Natural Resources Council

Kinsman Area Council Nutritional Committee

Cleveland Dietetic Association Nutrition Committee

Ministerial Association Nutrition Committee

Cuyahoga County Urban Gardening "Seed to Shelf" Program

Cleveland Job Corp Advisory Board Committee

"Buy Ohio Food Week" & Best Bagger Contest

Catholic Board of Education Head Start Centers Nutrition Committee

Cleveland Food Bank, Nutrition Committee

Cleveland Public Schools, Agri-Business-Advisory Committee

DIVISION OF MEAT INSPECTION

The Division of Meat Inspection is responsible for administering the Ohio Meat and Poultry Inspection Laws to conform to provisions of the Wholesome Meat Act and the Federal Poultry Inspection Act passed by Congress in 1967. The Ohio program, as those of other states, is subject to review by the Federal Meat Inspection Service and must be certified as "EQUAL TO" federal inspection.

The Division operates its field program through thirteen geographical districts, each district being supervised by a veterinarian and one or more program supervisors. Overall supervision of the program is provided by the Division Chief and Assistant Chief with the support from the technical staff headquartered at ODA's Reynoldsburg Laboratory Complex.

The objective of the Meat Inspection Program is to assure that meat and poultry products are processed under sanitary conditions, are wholesome, unadulterated and properly labeled. To accomplish this, inspection is done in the following steps:

1. **Approval of Plant Facilities and Sanitation** - Each establishment must provide a safe water supply, adequate sewage disposal system, properly installed plumbing and drainage systems and other facilities and procedures such as are necessary to maintain sanitary conditions within the establishment that allow the production of wholesome products. Meat plants are subjected to extremes in heat (smokehouse and cooking rooms) and cold (freezers), thus the maintenance of buildings is very important and they must be constructed to be durable and easily cleaned.

2. **Antemortem and Postmortem Inspection** - Each animal/bird slaughtered for human consumption is examined by division inspectors before slaughter, and the carcass is examined at the time of slaughter and dressing to determine that it is wholesome and free of contamination. Animals and carcasses found to be diseased are handled under veterinary supervision to ensure that all meats and poultry which are diseased or otherwise unwholesome are disposed of in a manner that prevents their entering the public food supply.

Antemortem and Postmortem inspection is becoming more important because of the shift to more animals being slaughtered in fewer state inspected plants because of the disappearance of slaughter plants; both state and federal.

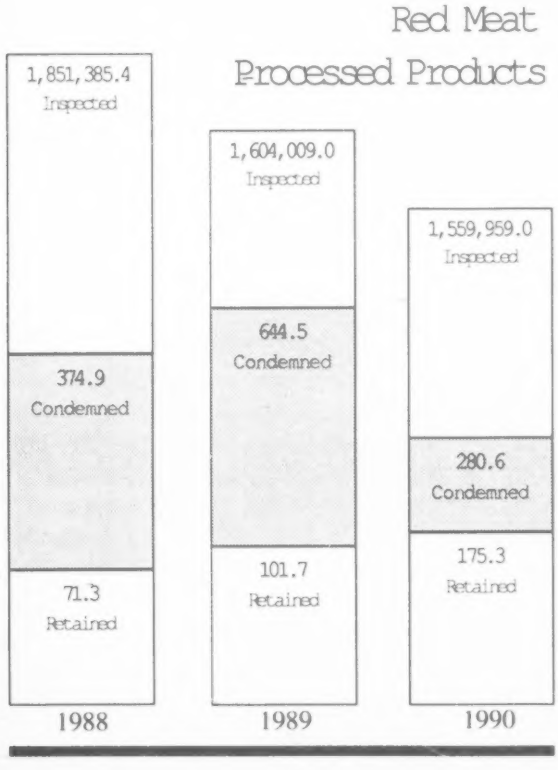
3. **Reinspection** — Products passing postmortem inspection are subject to reinspection at every stage of handling to assure that only wholesome products, properly identified with an Ohio inspection legend, leave the establishment.

4. **Preparation** — The meat industry is required to exercise controls during the preparation of processed products to ensure that only wholesome ingredients are used and that added substances are approved and used only in allowable quantities. Processes must be adequate to eliminate the trichinae hazard, if pork is an ingredient in a product which is to be eaten without further cooking. The establishment is required to follow written formulas and processing procedures.

More and more production of heat processed, ready-to-eat products are being produced which require more stringent procedures to prevent cross contamination by Listeria, Coliform and Staphylococcus organisms after the product is cooked.

5. **Labels** — Labels and formulations to be used on processed products are submitted to the division for advance approval. These labels on consumer packages must bear the Ohio inspection legend. This is the consumer's assurance that the product is wholesome, unadulterated and properly labeled when leaving the establishment.

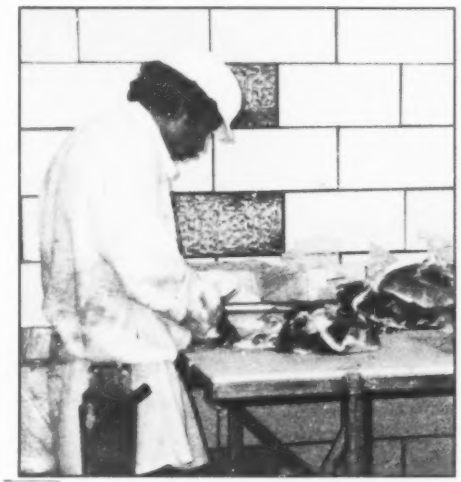
In late 1989, the first Ohio Department of Agriculture Meat and Poultry Advisory Committee



was established. The purpose of this Committee is to facilitate communication between ODA Food Regulatory Programs and the meat and poultry industries which are directly impacted by those programs. Committee members include representatives from three Ohio meat and poultry industry associations. They will be asked to review and comment on regulatory policies as they affect the industry; to provide feedback on the effectiveness of existing policies and to propose suggestions for the development of new or revised policies when and where needed.

The State Meat Inspection Program is now entering its third year under the new Federal/State Performance Plan. This plan resulted in the implementation of major changes in the Program Review activities and operations. Review operations serve as a check on the program's inspection operations to assure that the federal requirement of being "at least equal to federal inspection" is being met. The USDA conducted a Federal Oversight Review in June 1989. Their findings resulted in a "marginal acceptable" rating. Program deficiencies identified in this review were addressed with substantial changes and increased activity in training programs; blueprint operations; and State review operations. The USDA then completed a follow-up Oversight Review of the program.

The State Meat Inspection program is in the final stages of upgrading the blueprint operations and facilities program that was rated as a major deficiency in the USDA Oversight Review. The program is due for another USDA Oversight Review in June 1992.



Division of Plant Industry

The Division of Plant Industry is charged with the responsibility of enforcing Ohio laws which regulate the production, processing, labeling, handling, distribution, and sale of agricultural commodities important to crop production, including fertilizers, liming materials, pesticides, seeds, and honeybees. The Division inspects nursery stock to insure freedom from pests and diseases, examines grain elevators to protect the financial interests of depositors, and administers a variety of plant quarantine programs (e.g., Gypsy Moth).

Apiary Section

The Apiary Inspection Program annually registers Ohio apiaries for a fee of $5.00 per apiary.

A total of 7,596 beekeepers registered 11,000 apiaries, representing 66,000 individual colonies. By registering apiaries, bee colonies can then be inspected by both county appointed and state apiary inspectors. Colonies are usually inspected at the developing brood and adult bee stages for various bacterial, viral and parasitic diseases. Samples are also obtained for microscopic verification.

Feed & Fertilizer Section

The Feed and Fertilizer Section administers Ohio's Commercial Feed Law, Fertilizer Law, Agricultural Liming Materials Law, Agricultural Additive Law, and the Anhydrous Ammonia Regulations. Feed manufacturers are registered one time on a permanent basis with no renewal required. Liming material manufacturers and distributors are licensed annually.

A liming material license is $50.00 per location. Fertilizer licenses and specialty fertilizer registrations (lawn and garden) are issued by fiscal year. A $5.00 fee is charged for fertilizer licenses and a $50.00 per grade fee is charged for registration of specialty fertilizers.

The inspection fee for feed is 10¢ per ton with a minimum semi-annual fee of $10.00. In 1990, 1,799 feed tonnage reports were filed listing 1,865,352 tons of feed. For fertilizer, the inspection fee is 12¢ per ton and in 1990 there were 1,036 fertilizer tonnage reports filed listing 2,192,538 tons of fertilizer. For lime, the fee is 1/4 of one cent per ton in excess of

2,500 tons. In 1990, there were 46 lime tonnage reports filed listing 975,396 tons of lime. There was an inspection fee paid on all reported amounts of feed, fertilizer and lime.

In 1990, there were 1,106 firms registered to manufacture or distribute commercial feeds in Ohio; 687 firms licensed to manufacture or distribute commercial fertilizer; 1,804 speciality fertilizer registrations; 109 firms licensed to distribute liming materials; and 4 agricultural additive registrations.

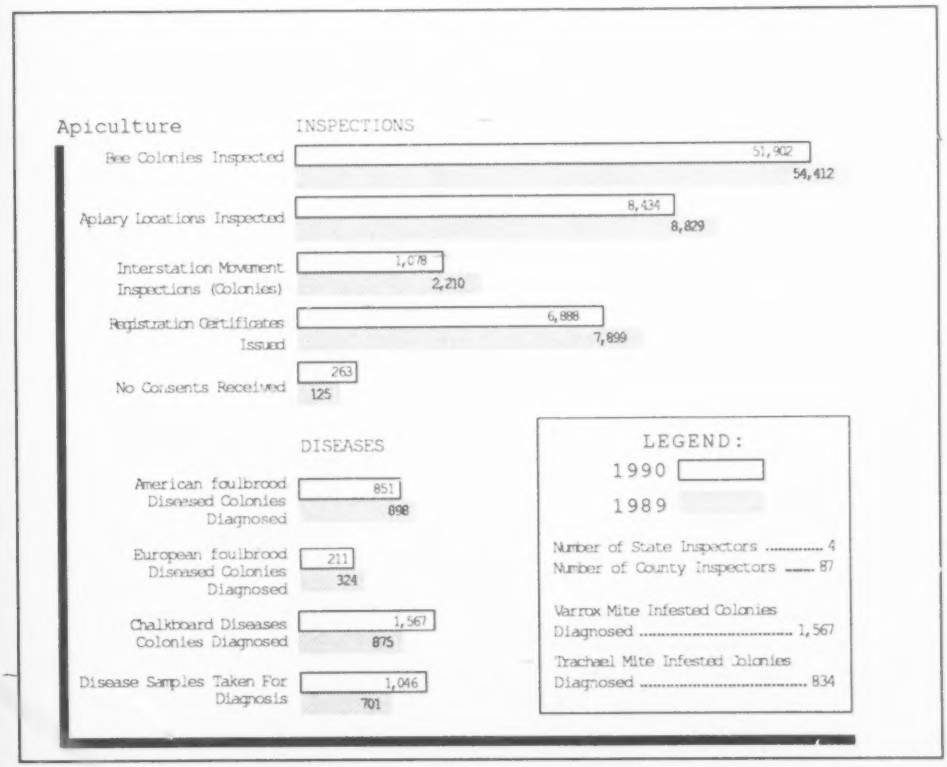
In addition to routine feed and fertilizer inspections and 1,487 feed samples, 1,135 fertilizer samples, and 148 lime samples were collected. Six inspectors performed 35 medicated feed inspections on firms registered with the FDA. There were over 280 anhydrous ammonia safety inspections performed on facilities throughout the state. Inspectors also conducted approximately 12 anhydrous ammonia safety schools for fertilizer handlers and fire departments.

Product analysis bulletins, fertilizer tonnage sales reports and lime tonnage reports prepared by the Section's office staff were distributed throughout the state.

Grain Warehouse Section

The Grain Warehouse Section of Plant Industry regulates agricultural commodity handlers in Ohio. Any person purchasing over 10,000 bushels of agricultural commodities in any calendar year is required to license with the Department. Licensing requires certain net worth requirements and proof of insurance. There is also a licensing and examination fee. Examinations are conducted at random to check elevator compliance and financial solvency.

The Section also oversees the Agricultural Commodity Depositors Special Account (Indemnity Fund). The Indemnity Fund was established by House Bill 770 on July 1, 1983. To create the Fund, a half-cent per bushel fee was assessed on all grain delivered to Ohio licensed elevators for a period of about 2-1/2 years. This fee was remitted to the Department and held in TRUST and used exclusively to indemnify producer, depositors, and warehouse receipt holders in the event of an elevator insolvency. Prior to the establishment of the fund, producers lost $8 million from 1968 to 1982. Currently, the one-half cent per bushel fee is not being collected because the fund remains above the $4 million cap established by law.



The Grain Warehouse Program is partially funded by the license and examination revenue collected, and through a cooperative examination with USDA. The uniform Grain Agreement provides for a uniform federal-state examination of grain elevators.

A seven-member Commodity Advisory Commission advises the Department on the administration of the Grain Warehouse Program. The

Commission consists of three farmers, three elevator operators, and one banker from an agricultural lending institution.

The Grain Warehouse Program is headquartered at the Reynoldsburg Laboratory Complex and consists of four administrative personnel and ten examiners.

Pesticide Regulation

The Pesticide Regulation Section, through the separate authorities of the Ohio Pesticide Law and the Federal Insecticide, Fungicide and Rodenticide Act, performs a variety of regulation functions.

State Licensing of Commercial Pesticide Applicators, Private Pesticide Applicators, Restricted Use Pesticide Dealers, and Cooperative State/Federal Enforcement and activities.

US EPA 1990 matching funds received.

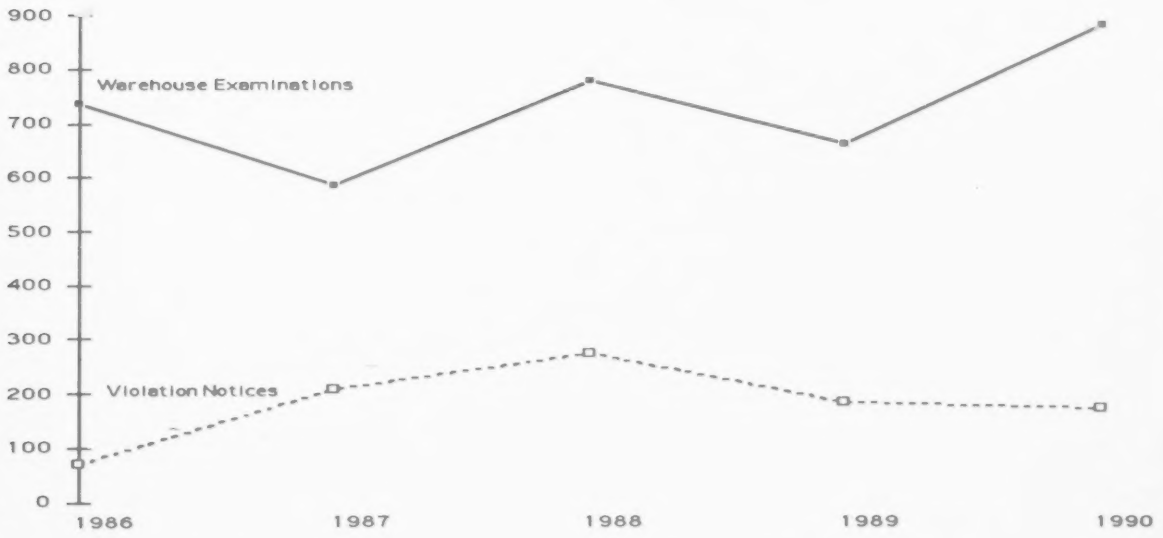
Pesticide Enforcement	$ 295,000
Pesticide Applicator Certification	58,600
Worker Protection	16,522
Total	$ 370,122

Program income including all non-federal sources:

$ 1,215,816

During 1990, several pesticide safety issues focused on food safety issues and product safety issues. Pesticides-in-water rose to the forefront of public policy issues. Pesticide worker safety was rekindled as an issue due to forthcoming federal regulations and the EPA granting funds to support state programs.

Grain Warehouse Examinations



The General Assembly enacted legislation giving the Ohio Department of Agriculture authority to assess civil penalties, authority to require restricted use pesticide record keeping for private applicators, and additional authority to deny licenses based upon an applicant's criminal history. Administrative Rules to implement this new authority will be adopted in the near future.

A wide variety of inspections, administrative actions, and criminal prosecutions were conducted in 1990.

Inspections:

Pesticide Formulation Samples	377
Pesticide Residue Samples	185
Pesticide Producing Establishments	118
Pesticide Marketplace Samples	200
Pesticide Use Complaints	302
Experimental Use Registrations	7
Pesticide Applicator Records	388
Restricted Use Pesticide Dealers	308

Certification and Licensing:

	1989	1990
Private Applicators Tested	3,663	2,253
Commercial Applicators Tested	3,577	3,298
County Examination Sessions	NA	170

Licenses Issued:

Custom Applicator	2,46
Custom Operator	2,252
Limited Commercial Applicator	862
Public Operator	2,100
Restricted Use Pesticide Dealer	715
Pesticide Product Registrations	10,708
Private Applicators:	
Newly Certified in 1990	1,314
Total Private Applicators	18,523

Administration and Other Actions:

Revised Rules Covering Bulk Pesticides	
Pesticide Standards Committee	
Section 24c Pesticide Product Registrations	7
Section 18 Pesticide Product Registrations	3
Field Notices of Warning	610
Certified Letters of Warning	95
Criminal Convictions	5
Administrative Hearings	1

Plant Pest Control Section

A total of 1,407 nurseries comprising 16,940 acres were inspected in 1990. This is an increase of 135 nurseries and 743 acres.

Additionally, 3,312 nursery dealer certificates were issued in 1990, representing a decrease of approximately 38 dealers.

Tomato spotted wilt surveys were conducted in Ohio. One large greenhouse in west central Ohio was found with low to moderate level infections and several other smaller greenhouses were discovered with similar or lesser degrees of infestation.

The Plant Pest Section participated in several biotech facility inspections last year as part of the USDA's permit procedure for interstate movement of genetically-altered microorganisms (GEMS). One field release project and site involving ROUNDUP-resistant soybeans was also assessed. An increase in this activity is anticipated in the years ahead.

The "Ameriflora 92," is an international flower and garden show to be held in Columbus in 1992. A large influx of imported plant material is expected and a multimillion dollar quarantine facility is nearing completion on The Ohio State University campus. Discussions with the festival officials have been underway for some time regarding procedural requirements to minimize pest risk.

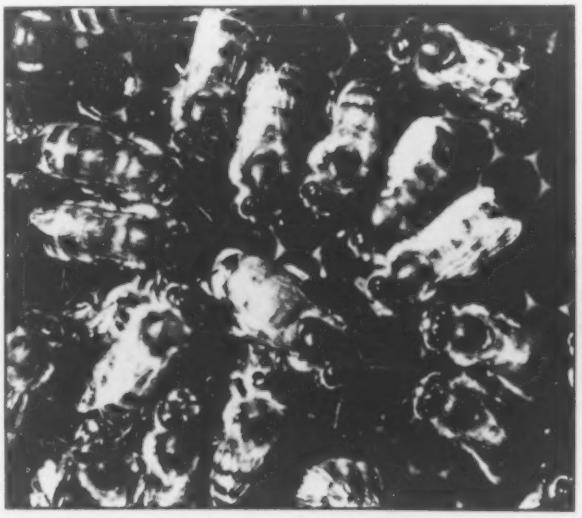
Gypsy Moth

Aerial spraying to eradicate or suppress populations of the Gypsy Moths at eleven different Ohio sites was completed during May, 1990. The treatments were made by helicopter in cooperation with the Ohio Department of Natural Resources.

Aerial defoliation surveys were conducted for the first time in Ohio and, as a result, five sites were detected having complete defoliation. The sites were each small in area and totalled only about 110 acres. Four of the sites were in Ashtabula County and one was in Lake County.

Two Ohio sites initially scheduled for eradication treatments were mass-trapped instead. One of the sites was in West Carrollton where USDA-APHIS personnel conducted the trapping. Statewide pheromone surveys detected a new infestation in the Cincinnati area which will need to be addressed in the Spring of 1991. Other data derived from the survey revealed a natural spread of heavy infestation along the Pennsylvania border into Trumbull, Mahoning, and Columbiana counties. Changes in the state and federal quarantines will probably be made in 1991 to reflect this development.

A new Gypsy Moth Office was opened in northeast Ohio to better serve the needs of the program in that part of the state.



The top 20 insects and diseases reported in 1990:

Diseases	Insects
Fungal & Bacterial Leaf Spots*	Two Spotted Spider Mite*
Apple Scab*	Japanese Beetle*
Powdery Mildew*	Black Vine Weevil*
Crown Gall*	Honeylocust Spider Mite*
Downey Mildew	Eastern Sprucegall Adelgid*
Botrytis Blight*	Pine Bark Adelgid*
Verticillium Wilt*	Hawthorn Lace Bug*
White Pine Root Decline	Fletcher Scale
Fireblight	Pine Needle Scale
Gymnosporangium Rusts	Spruce Spider Mite
Canker	Fall Webworm*
Anthracnose Leaf Blight	Apple Aphid
Blackspot*	Birch Leafminer*
Juniper Twig Blights*	Potato Leafhopper*
Leaf Blotch	Cooley Sprucegall Adelgid*
Pine Needlecasts	White Pine Aphid
Maple Tar Spot	Zimmerman Pine Moth
Diplodia Tip Blight*	Bronze Birch Borer*
Leaf Rusts	Pine Tortoise Scale
Blackknot	Magnolia Leafminer

*Denotes same Disease/Insect as last year's report.

Seed Section

The Seed Inspection Program activities are intended to make sure all agricultural and vegetable seed sold in Ohio meets the necessary standards set forth by the Ohio Revised Code.

Inspectors examine labeling and obtain seed samples for both purity and germination testing. If test results indicate below standard seed or false labeling, stop sale orders are issued.

Program changes include the contracting of sample testing to the private sector and the computerization of licensees and permit holders.

Seed Program

	1989	1990
Seed Labelers Permits Issued	397	482
Packet Vegetable Seed Fees	$54,437	$32,100
Seed Tags Issued	1,225	1,865
Seed Inspection Fees	$119,433	$176,663
Inoculant License Issued	8	12
Applicators' Licenses Issued	128	113
Income - Laboratory Services	$5,442	$3,920
Total Income	$184,634	$219,514
Inspections	5,452	3,058
Samples Taken	3,217	1,920
Samples Analyzed	3,019	1,760
Stop Sales	73	123
Relabel	205	21

DIVISION OF WEIGHTS AND MEASURES

The Ohio Director of Agriculture is the State Sealer of Weights and Measures. The Deputy Sealer (Chief of the Division of Weights and Measures) is appointed by the Director and is responsible for the administration and enforcement of weights and measures laws specified in the Ohio Revised Code. The state metrology laboratory, where the state's primary mass, length and volume standards are housed, is located at the Department's Reynoldsburg Laboratory facility.

The Division of Weights and Measures has the responsibility for eight major programs.

Metrology - Ohio's metrology laboratory tests and calibrates weighing and measuring standards.

The Laboratory is certified by the National Institute of Standards and Technology (formerly the National Bureau of Standards). The laboratory and state metrologists have participated in the Northeast Measurement Assurance Program and its activities since the conception of the program in 1979. The Division continues to work with the National Institute's Office of Weights and Measures to insure compliance with the "certification by measurement area" program. A Laboratory Quality Assurance Program has also been implemented. The Division recognizes the need to continually upgrade staff education, measurement equipment and overall laboratory competence.

This year 11,276 official, commercial or scientific standards were submitted to the metrology laboratory for testing and/or calibration. The laboratory performed service for 439 different companies, 78 local governments in Ohio and 23 other governmental agencies.

National Type Evaluation Program (NTEP) Laboratory - Ohio is known as the "cradle of the scale industry" due to the large number of major scale manufacturers that distribute their devices worldwide. The Ohio scale industry depends upon an effective, equitable state weights and measures program in order to compete profitably in domestic and foreign markets.

As a participating laboratory under the National Type Evaluation Program, Ohio has established itself as a leader in the field of weights and measures. Presently, only three other laboratories in the United States have NTEP laboratory authorization: the National Institute of Standards and Technology's Office of Weights and Measures in Gaithersburg, Maryland; the State of California; and the State of New York.

Ohio's NTEP Laboratory provided evaluation services to five Ohio companies and 28 out-of-state companies. This center for the evaluation and approval of scale design and other weighing and measuring elements, evaluated 72 devices/indicators during the year. The National Institute of Standards and Technology Office of Weights and Measures issued "Certificates of Conformance" for 55 of the devices/indicators .

Advise, Assist and Train - Eight Ohio cities and all 88 counties have established weights and measures programs. All local jurisdictions check small capacity scales and gasoline pump meters. Many of the jurisdictions check packaged commodities for accuracy; some check parking meters, taxi meters, etc. and investigate consumer complaints for inaccurate weights or measures.

Weights and Measure's personnel advise and assist county and city sealers. Under provisions of the Ohio Revised Code, local sealers are provided training by Department staff.

In addition, the Division assists the local weights and measures jurisdictions through the following programs:

Vehicle Scales - Ohio has five large capacity scale testing units. Two of the units are tractor trailer rigs that carry 40,000 pounds of calibrated test weights. Two are tri-axle units that carry 30,500 pounds of calibrated test weights, and one unit carries 10,500 pounds of calibrated test weights.

This year 2,775 vehicle scales were tested and/or inspected. Of this number, 630 (22.7%) were rejected for repair or condemned from use on the initial check.

Fuel Meters - Ohio's Weights and Measures Division operated one - 1,000 gallon prover, two — 100 gallon provers, and a 95 gallon L.P. Gas prover. State Weights and Measures inspectors travel throughout the State with the provers, inspecting and testing fuel delivery truck meters and meters at bulk fuel plants. In 1990, 2,735 such meters were inspected and/or tested; 671 required adjustments or were condemned for repair or replacement on the initial tests/inspections. The rejection rate was 36.4 percent for the bulk plant fuel meters, 19.3 percent for delivery truck fuel meters and 50.3 percent on L.P. Gas meters.

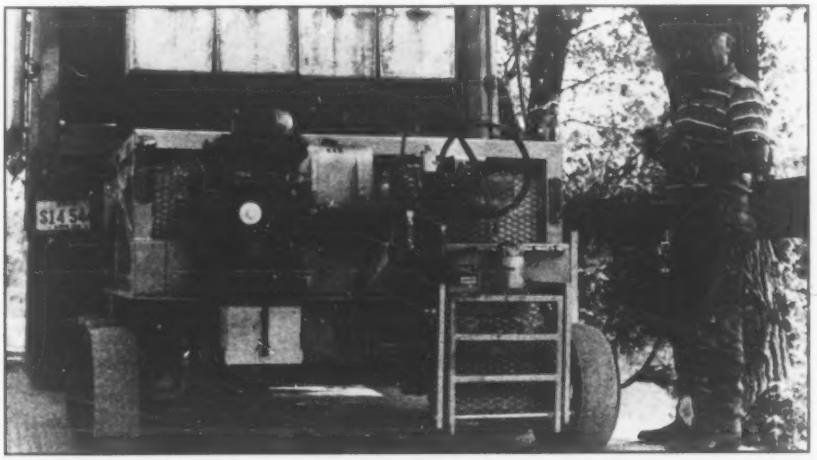
Package Control - Pre-packaged commodities (fertilizer, meat, milk, produce, etc.) are regularly checked by staff. Special assistance, specialized

complaints and consumer complaints are also investigated under this program (short weights and short measure in firewood, kerosene, insulation, etc.).

In 1990, sixty-seven violation notices were sent to packers. A listing of documented package violations was included in each issue of the Division's "Quarterly Review" newsletter for local weights and measures jurisdictions' review.

Voluntary Registration of Service Persons and Agencies (VRSPA) - Agencies and individuals who install, recondition and repair weighing and measuring devices may apply for registration through the state's VRSPA Program. Participants must meet prescribed requirements and successfully complete a state examination before being registered. In 1990, 187 individuals representing 32 Ohio scale and meter companies were registered.

Minimum Training Requirements - In 1990, Ohio passed a Minimum Training Rule requiring all city, county, and state weights and measures inspectors to participate in a 20-lesson study course. To date, the course has been completed by 71 of Ohio's weights and measures officials. The rule also requires inspectors to successfully complete examinations and annual continuing education requirements.



LABORATORY STATISTICS
1990

Metrology Laboratory:

	Sealed	Adjusted	Condemned	Total	Rejection Rate
State Patrol Portable Wheel-Load Weighers	330	29	39	369	18.4%
Independent Law Enforcement Portable Wheel-Load Weighers	155	25	6	161	19.3%
Official	2,519	102	8	2,527	4.4%
Commercial	6,680	1,501	131	6,811	24.1%
Scientific	879	5	7	886	1.4%

CONVENIENT CONVERSION FACTORS

Multiply	By	To Get
Pounds	7,000	Grains
Pounds	16	Ounces
Pounds	0.000	Tons
Ton	907,1849	Kilogram
Ton	32,000	Ounces
Ton	2,000	Pound
Bushels	2,150.42	Cubic Inches
Bushels	4	Pecks
Temperature	(o/C.)+17.9818	Temperature, o/F.
Temperature	(o/F.)-325/9 or 0.5555	Temperature, o/C.

DIVISION OF WEIGHTS AND MEASURES

Inspection Statistics 1990

FIELD PROGRAMS

	INITIAL CHECK Sealed	Rejected	Condemned	RECHECK Sealed	Rejected	Condemned	Total Tested &/or Inspected	Total Known	Rejection Rate
Large Capacity Vehicle Scales	1870	553	77	59	25	3	2775	2880	25.2%
State Patrol Vehicle Scales	12	0	6	3	0	2	23	21	33.3%
Livestock Scales	36	22	7	1	0	2	80	206	44.6%

	INITIAL CHECK Sealed	Adjusted	Rejected	Condemned	RECHECK Sealed	Adjusted	Rejected	Condemned	Total Tested &/or Inspected	Total Known	Rejection Rate
Fuel Meters (100 gallons)	2097	371	37	4	5	2	0	0	2157	2300	19.3%
Fuel Meters (1000 gallons)	85	29	3	0	0	0	0	0	88	800	36.4%
L.P. Gas Meters	421	197	28	2	12	9	0	1	490	626	50.3%

	Number Lots Checked	Number Packages Checked	Number Packages Represented in Lots	Number Lots Rejected	Number Packages Ordered Off-Sale	Rejection Rate
Random	484	13,191	812,073	134	146,490	27.7%
Standard	103	1,073	4,001	93	3,270	90.3%

	Number Products	Number Products Suspected Short	Percentage Suspected
Audit Testing	1620	91	5.6%

Establishments Visited: 447
Violation Letters Issued: 67

NATIONAL TYPE EVALUATION LAB STATISTICS

5 Ohio companies received type evaluation services

28 Out-of-state companies received type evaluation services

Devices < 2000 lb. Evaluated	Devices > 2000 lb. Evaluated	Cash Registers Indicators Only Evaluated	Total Devices/Indicators Evaluated	Certificates of Conformance Issued
34	11	27	72	55

Coyote Indemnity Fund

The Coyote Indemnity Fund is an Ohio Department of Agriculture and U.S. Animal and Plant Health Inspection Service (APHIS) cooperative program. This fund is used to reimburse farmers whose livestock has been killed by coyotes.

A farmer who suspects that an animal has been killed by coyotes reports the kill to the county Dog Warden. When sufficient evidence of a coyote kill exists, then the Dog Warden will inspect the animal and contact the Ohio Division of Wildlife's Game Protector for that county. The Game Protector also evaluates the kill and prepares a statement. Once a determination is made that the animal was killed by coyotes, the investigation report is sent to ODA's Wildlife Damage Specialist. Pending funding by the Ohio General Assembly, the farmer will then be reimbursed for the animal from the Indemnification Fund at current fair market value.

Coyote Indemnity Fund
March 1990 – February 1991

County	Sheep	Amt.	Cattle	Amt.	Goats	Amt.	Pigs	Amt.	Poultry	Amt.
Adams	7	$212.90	2	$250						
Ashland	4	126.00								
Belmont	7	470.00								
Butler	23	1085.00	3	355					20	$140
Carroll					1	$50				
Champaign	9	750.00								
Clark	1	25.00								
Clermont							2	$150		
Coshocton	19	790.00								
Darke	2	80.00			1	75				
Delaware	5	495.00								
Fairfield	48	1445.00								
Guernsey	1	44.00								
Hardin									9	27
Harrison	82	6491.00	1	80						
Highland	41	2765.00	1	75	1	55				
Hocking	2	70.00								
Holmes	3	170.00								
Huron	2	112.00							26	195
Logan	4	200.00								
Licking	40	2600.00			2	70				
Madison	19	1605.00	1	125						
Marion	4	80.00								
Miami	1	30.00	1	125						
Montgomery	14	592.00							2	10
Monroe			2	200						
Morgan	10	357.00								
Muskingum	7	235.00								
Noble	9	410.00								
Pickaway	8	280.00								
Preble	23	374.00								
Ross	4	139.00								
Seneca	20	239.40								
Union	37	598.00	2	875						
Washington	1	60.00								
Warren	3	245.00								
Wyandot	1	26.00								
Total	461	22,701.30	13	$2,085	5	$200	2	$150	57	$372
Total Livestock	538	**Total Reimbursement**		$26,058.30						

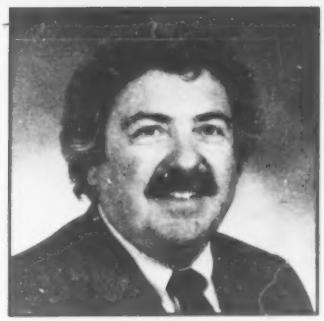
1991 Ohio Department of Agriculture Executive Staff

Fred L. Dailey
Director

Larry J. Adams
Assistant Director

Mark R. List
Deputy Director

Donald L. Noah, D.V.M.
Deputy Director



Lenny Cavalier
Amusement Ride

Frank Forgione
Fiscal

Kirby Hidy
Markets

Dr. Roland Jenkins
Consumer Analytical Labs

Carla Moore
Communications

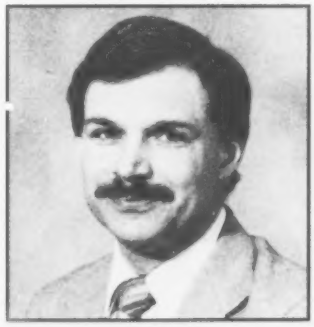
Jack Oliver
Foods, Dairies & Drugs

Edwin Otte
Computer Section

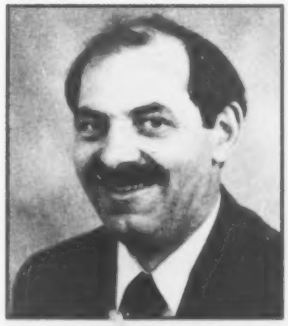
Larry Pontious
Enforcement

Dr. Kenneth Roach
Plant Industry

William Thomas, D.V.M.
Animal Industry

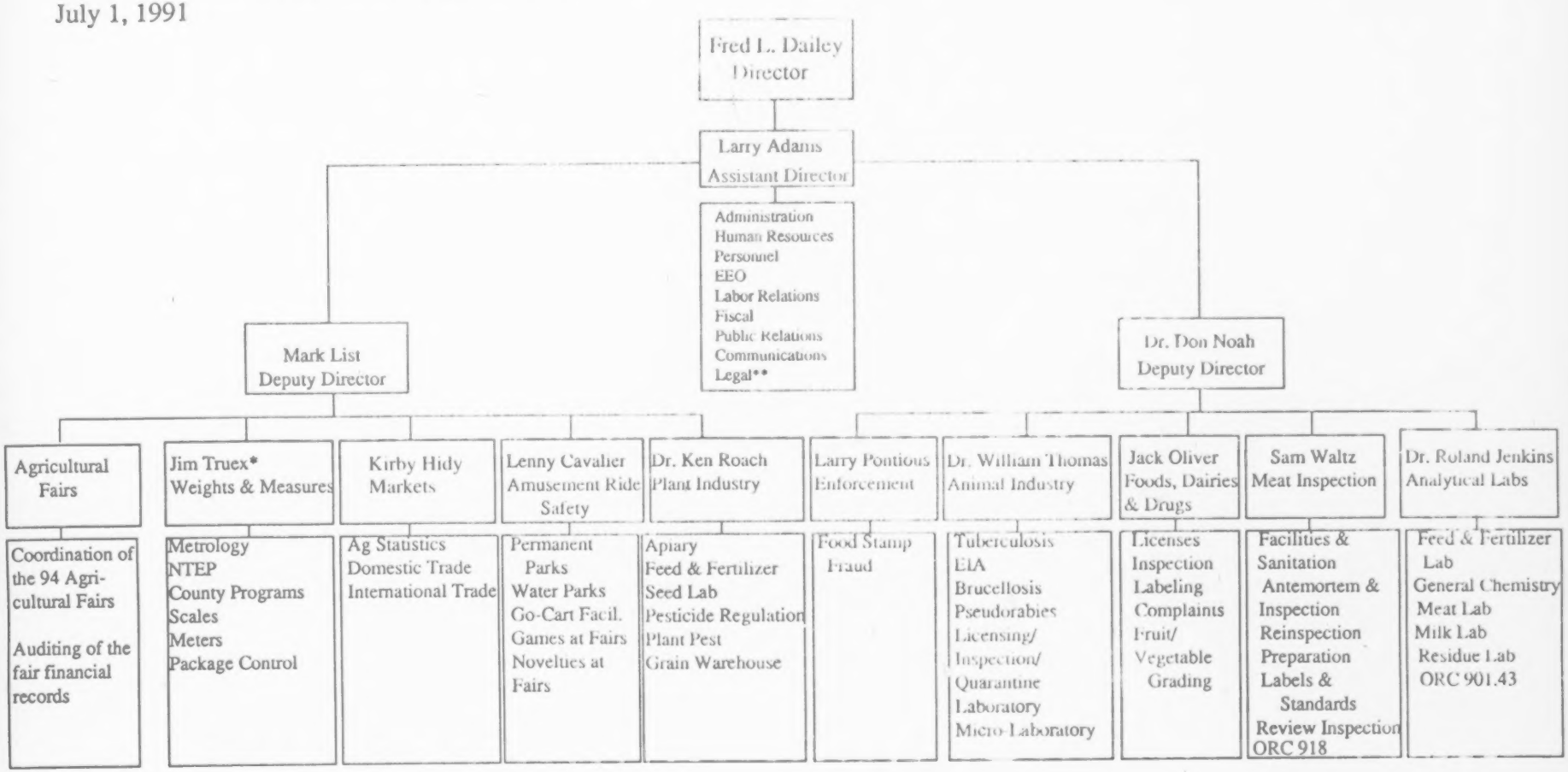


Jim Truex
Weights & Measures

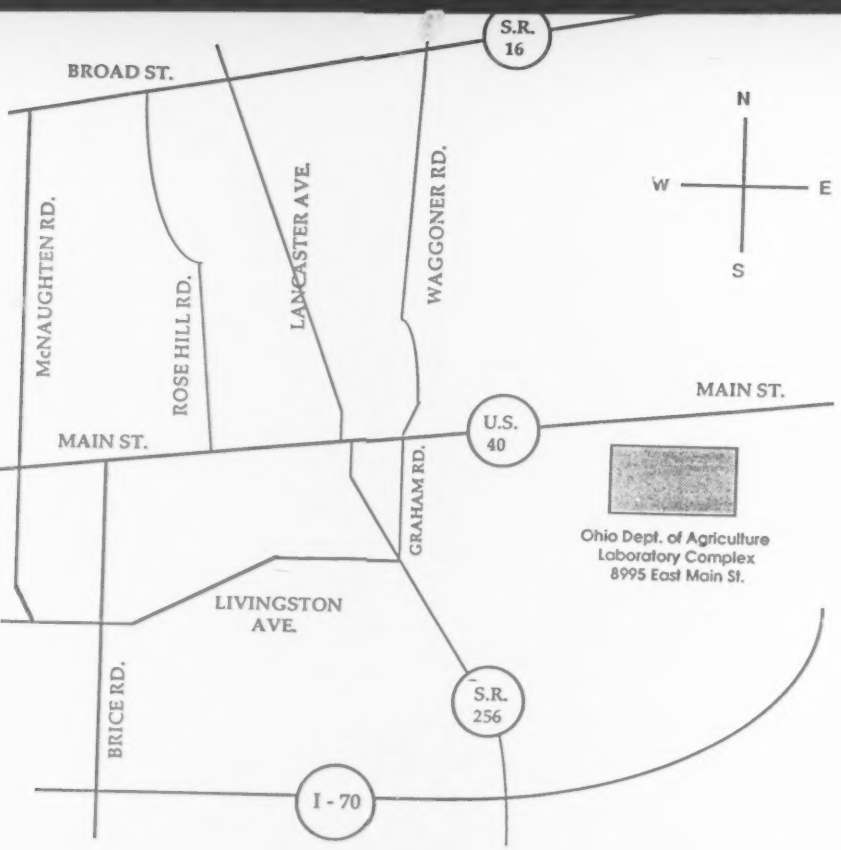


Sam Waltz
Meat Inspection

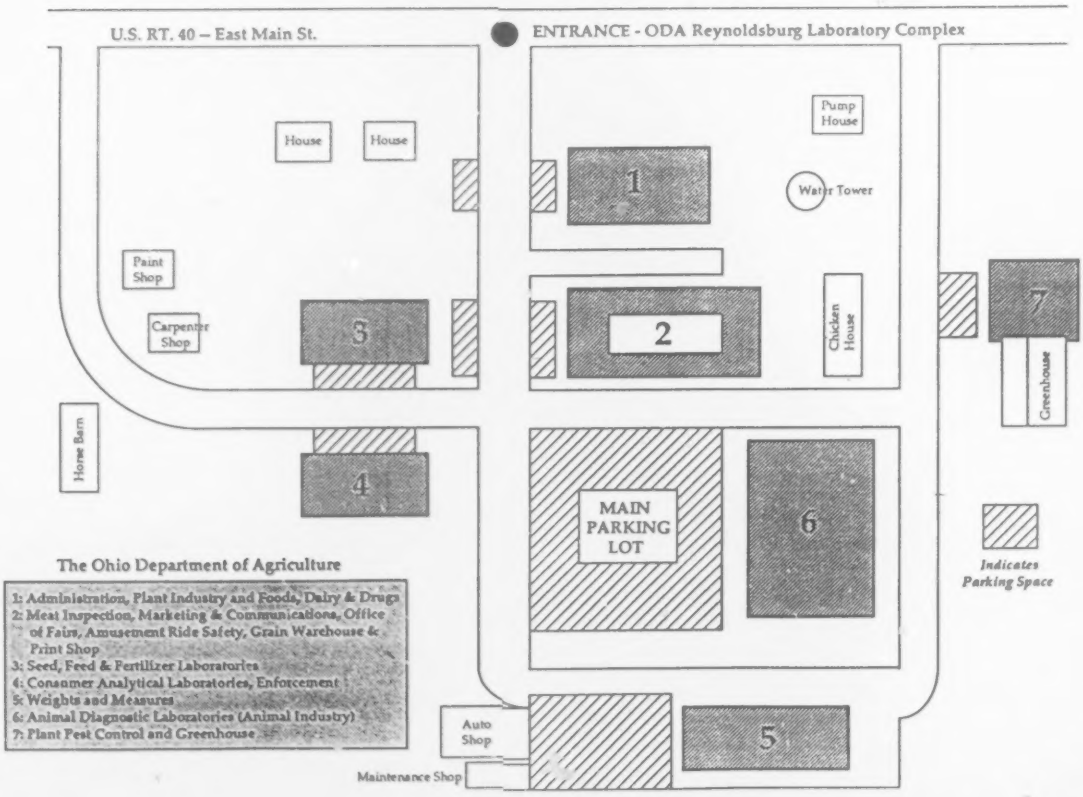
Ohio Department of Agriculture Organizational Chart
July 1, 1991



* Acting
** Supervised by Dr. Noah



MAPS TO ODA REYNODLSBURG LABORATORY COMPLEX



The Ohio Department of Agriculture

1: Administration, Plant Industry and Foods, Dairy & Drugs
2: Meat Inspection, Marketing & Communications, Office of Fairs, Amusement Ride Safety, Grain Warehouse & Print Shop
3: Seed, Feed & Fertilizer Laboratories
4: Consumer Analytical Laboratories, Enforcement
5: Weights and Measures
6: Animal Diagnostic Laboratories (Animal Industry)
7: Plant Pest Control and Greenhouse

***Front cover photo courtesy of The Ohio Cattlemen's Association.**

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